DELTA DESIGN
INC.

2300

INSTRUCTION MANUAL

DELTA DESIGN, INC.
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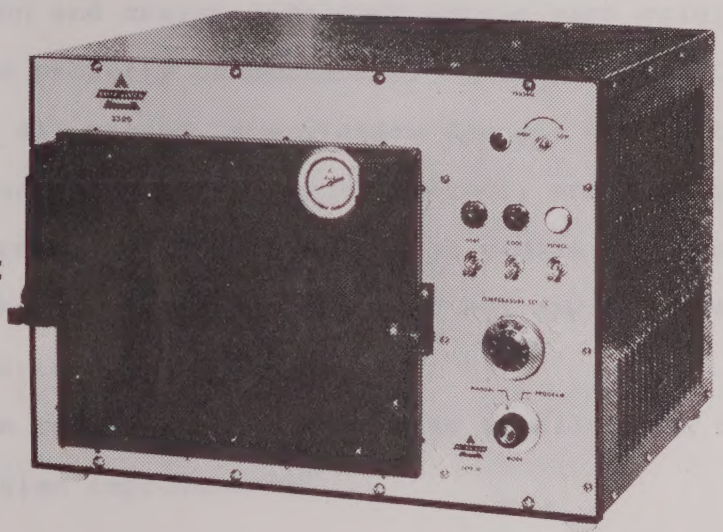
OBTAINED NEW
8/82

INSTRUCTION MANUAL
Model 2300



DELTA DESIGN
INC

ENVIRONMENTAL TEST CHAMBER

ENVIRONMENTAL CONTROL EQUIPMENT FOR RESEARCH AND INDUSTRY
5725 KEARNY VILLA ROAD • SAN DIEGO, CALIFORNIA 92123

2300-0880

Printed in U.S.A.

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SPECIFICATIONS

TEST VOLUME (H x W x D)	8" x 10" x 8" (20.32 x 25.40 x 20.32 Cm) .37 $Ft.^3$ (10.5 liters)
AIR CIRCULATION	140 CFM centrifugal blower with baffling to provide equal distribution throughout the chamber in a vertical air flow pattern.
OUTSIDE CASE DIMENSIONS (H x W x D)	Bench 12 - 3/4" x 17 - 1/2" x 20 - 3/4" (32.38 x 44.45 x 52.70 Cm) Rack 12 - 1/4" x 19" x 20 - 3/4" (31.12 x 48.26 x 52.70 Cm)
INNER LINER	Type 302 Stainless Steel
OUTER CASE	Aluminum
INSULATION	Fiberglas
WEIGHT	45 lbs. (20.41 Kg)
POWER REQUIREMENTS	120VAC, 50 or 60 Hz, Single Phase, 1800 Watts or 240VAC, 50 or 60 Hz, Single Phase, 1800 Watts.
CONTROLS	POWER ON-OFF Switch and Light COOL ON-OFF Switch and Light HEAT ON-OFF Switch and Light TEMPERATURE SET Control MANUAL/PROGRAM Control Switch (MODE)
HEATING ELEMENTS	Dual 20Ω nichrome elements.
COOLING	Liquid Carbon Dioxide (LCO_2) metered injection (1050 psi standard, 300 psi optional) or Liquid Nitrogen (LN_2 - 100 psi)
LCO_2 CONSUMPTION RATE	5.6 lbs/hr at -53°C (-65°F)
PROGRAMMING	Programmable
TEMPERATURE RANGE	-73°C to +315°C -184°C to +315°C with LN_2 Option.
RESETTABILITY	±0.15°C
CONTROL DEVIATION FROM SETPOINT	±0.05°C

LINE VOLTAGE STABILIZATION	±0.25°C for 105-125 VAC line voltage change. ±0.25°C for 220-240 VAC line voltage change
AMBIENT TEMPERATURE COMPENSATION	±0.010°C/°C
HEAT LOAD COMPENSATION	.020°C/Watt for operation above ambient. .013°C/Watt for operation below ambient.
GRADIENT IN TEST AREA (1-1/2" from walls in corners and in the center of the test area)	±0.75°C/100°C Difference Measured from ambient
THERMAL IMPEDANCE OF CHAMBER	Approximately .62°C/Watt.
NULL DETECTOR CONTACT CLOSURE	Temperature will be within 4°C of final temperature at 3 minutes after closure occurs
NULL DETECTOR CONTACT RATING	1 Amp, 240 VAC, with contact protection provided by user to protect against inductive loads

NOTE: IT IS RECOMMENDED THAT THIS MANUAL BE READ THOROUGHLY BEFORE CONNECTING EQUIPMENT TO ELECTRICAL POWER SOURCE.

INTRODUCTION

The Delta Design, Inc., Model 2300 Chamber is a precision environmental test chamber capable of attaining temperatures from -73°C to +315°C with a minimal temperature deviation of ±0.1°C.

Temperature control in this chamber is by means of Delta's Solid State Controller, which can be operated manually or thru an external programmer.

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2300 CHAMBER

PRECAUTIONS

(1) Connect SAFETY PLUG (rear of chamber) when external programmer is not being used. This will preclude any accidental high temperature being obtained if the MODE switch is placed in the PROGRAM position with no programmer connected.

(2) Unplug the chamber from all sources of power before attempting any type of servicing or removal of the controller chassis. The case of the SCR Switch assembly, located on the controller sub-assembly, is at power line potential and extreme care in servicing or calibration must be exercised.

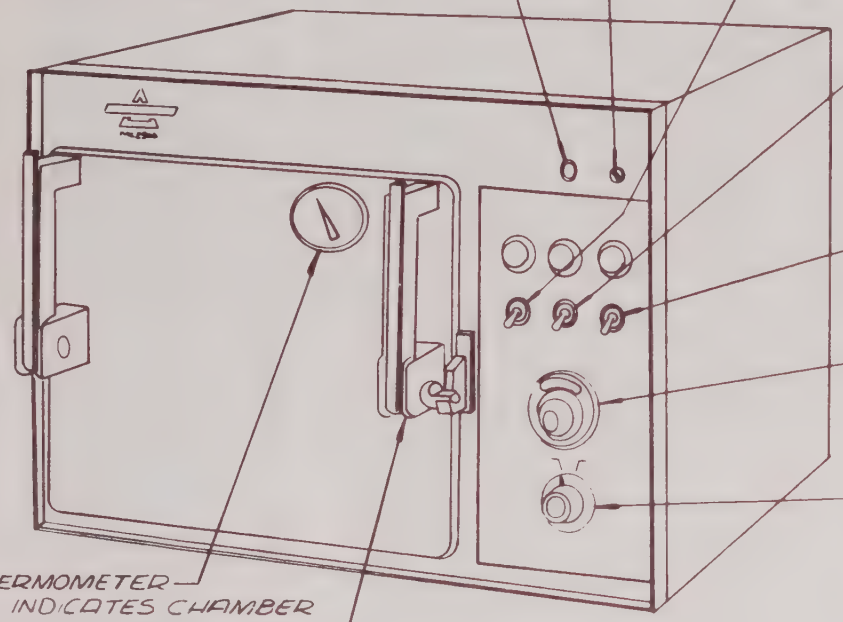
(3) Do not leave liquid nitrogen trapped in a line (valves closed at both ends) as high pressures will be developed as the liquid absorbs heat and becomes gas.

(4) Ensure that the correct type of LCO_2 (liquid carbon dioxide) source is connected to the chamber before operating at low temperature. Test the LCO_2 for cleanliness by discharging a quantity of it through a clean white handkerchief. Bits of rust and traces of oil, ice or water indicate contaminated LCO_2 which should not be used.

(5) Ground the case of the chamber to earth ground. When a grounded outlet is not available, use a three-to-two adaptor and connect the green colored "pigtail" to earth ground. The chamber must not be operated without the case grounded.

(6) Operate the chamber at a temperature of 200°C for an hour after prolonged operation at low temperatures. This restores the efficiency of the insulating material by driving out the moisture which has been condensed out of the air.

(7) CAUTION - Liquid oxygen may be formed in the insulation when the chamber is operated at low temperatures. Any mixture of oil and liquid oxygen can be explosive. If oil contamination is suspected, bake the chamber out by operating it at a temperature of 200°C for a period of 3 hours before taking it to extremely low temperatures.



FAILSAFE ADJUSTMENT– TURN TO CHANGE TEMPERATURE AT WHICH FAILSAFE WILL TRIP.
CAUTION: DO NOT LOWER FAILSAFE TEMP SETTING UNLESS HEAT SW. IS ON & FAILSAFE IS OFF.

FAILSAFE LIGHT– GLOWS RED WHEN FAILSAFE IS TRIPPED.

THERMOMETER– INDICATES CHAMBER TEMP. IN TEST VOLUME.

CAM ACTION HANDLES: PULL LEVER FULL DOWN TO RELEASE

OPERATING INSTRUCTIONS: INSTALL THE CHAMBER, CONNECT POWER CORD TO SUITABLE OUTLET & COOLANT SUPPLY TO VALVE INLET AT REAR OF CHAMBER.

FOLLOW THE ARROWS:

5 HEAT SWITCH & LIGHT--SWITCH ON--ON POSITION ALLOWS CONTROLLER TO APPLY HEAT AUTOMATICALLY TO MAINTAIN SELECTED TEMPERATURE IN CHAMBER. RED LIGHT IS ON STEADY WHEN CHAMBER IS HEATING. BLINKS WHEN CHAMBER REACHES SELECTED TEMPERATURE ABOVE AMBIENT.

4 COOL SWITCH & LIGHT--SWITCH ON--ON POSITION ALLOWS CONTROLLER TO APPLY COOLANT AUTOMATICALLY TO MAINTAIN SELECTED TEMPERATURE IN CHAMBER. GREEN LIGHT IS ON STEADY WHEN CHAMBER IS COOLING.

3 POWER SWITCH & LIGHT-- SWITCH ON. MAIN POWER ON. WHITE LIGHT GLOWS WHEN POWER IS ON.

2 TEMPERATURE SET DIAL-- SET TO DESIRED TEMPERATURE. SELECTS CHAMBER TEMPERATURE IF MODE SWITCH IS IN MANUAL POSITION.

1 MODE SWITCH-- SET TO MANUAL POSITION. ASSIGNS THE SELECTION OF CHAMBER TEMPERATURE TO TEMPERATURE SET DIAL OR EXTERNAL PROGRAMMER.

MANUAL POSITION: TEMPERATURE SET DIAL DETERMINES CHAMBER TEMPERATURE.

PROGRAM POSITION: PROGRAMMING RESISTANCE CONNECTED TO PROGRAM JACK AT REAR OF UNIT SELECTS CHAMBER TEMPERATURE.

CAUTION: ALWAYS CONNECT SAFETY PLUG (AT REAR OF CHAMBER) WHEN AN EXTERNAL PROGRAMMER IS NOT BEING USED. (SEE PAGE 6)

2300 OPERATING INFORMATION

INSTALLATION

Rack mounting models may be used as bench mounted types if a 1/2 inch clearance is maintained underneath to allow the required air flow out the bottom of the chamber. This is necessary for proper controller cooling. The mounting feet on bench models maintain the required clearance. Do not operate the chamber without the required air space beneath it.

POWER CONNECTION

The circuit to which the chamber is to be connected should have a 15 ampere minimum rating. The outlet should be of the polarized type with a "U" grounding slot. Ensure that all switches are OFF and plug the chamber power cord into the outlet. Do not use the 3-wire to 2-wire adapter. Use the adapter only if the outlet is of the non grounding type. The short, green lead (terminating in a clip) should be fastened to the grounding screw securing the cover plate to the outlet. THE CHAMBER MUST BE PROPERLY GROUNDED.

LIQUID COOLANT

Liquid Carbon Dioxide - 1050 psi system

Test the bottle by releasing a small amount of LCO_2 into a white handkerchief. Any brown stain indicates rust which would clog the filter and valve in the chamber. A wet handkerchief indicates water which would either freeze in the valve or clog the injector nozzle. Crack the LCO_2 valve open on the cylinder and notice the spray. It should be a dense, white cloud. It looks thin and gray when the tank is almost empty. An almost empty tank will not give proper cooling and should not be used. Connect the tank of LCO_2 to the rear of the chamber with the supplied high-pressure hose and fittings. Place a small amount of sealing compound on the threads of the male fitting to prevent leakage. DO NOT LET ANY SEALING COMPOUND GET INTO THE VALVE INLET ON THE REAR OF THE CHAMBER. Open the bottle and check for leaks which show as frosty spots on the hose or fittings.

Liquid Carbon Dioxide - 300 psi Low Pressure system

When the in-plant use of liquid CO_2 exceeds approximately 1000 to 2000 lb. per month, a bulk liquid storage system can be installed to reduce the cost of coolant. Chambers being operated with this type of system have to be fitted with a different CO_2 valve and injector than used on a 1050 psi system. If new chambers are ordered for use with a bulk storage

300 psi system, the fact should be stated on the order.

NOTE: The bulk storage system should be of the recirculating type if possible. If not, the supply should be located as close as possible to the chamber to minimize gas formation in the supply line. This is particularly important in low volume usage systems as the insulation and fluid flow are the factors that prevent boiling of CO_2 in the supply line. Gaseous CO_2 is not an effective coolant.

All lines, valves and connecting hoses should be blown out before the chamber is connected. Water is very troublesome and is apparently inherent in some low-pressure refrigerated supplies. If lines are opened to bleed off excessive pressure at shutdown, close them to prevent contamination by condensed moisture. This will help to keep ice from forming in the control valve.

LIQUID NITROGEN

CAUTION

Oxygen in the air surrounding the chamber inner liner and in the insulation can be liquified at low temperatures. This creates an oxygen rich atmosphere surrounding the heater area. The chamber tends to be self purging as the nitrogen replaces the usual atmosphere near the heaters. Any mixture of oil and liquid oxygen can be explosive so that extreme care must be used during operation at very low temperatures.

A 100 psi valve and stainless steel, polyurethane foam insulated, injector assembly is used for the liquid nitrogen applications. LCO_2 from a tank will not operate properly in a chamber equipped for LN_2.

Connect a liquid nitrogen liquid withdrawal container to the LN_2 input of the chamber with an insulated transfer line. A relief valve should be installed in the line with a relief pressure between 60 and 100 psi for a 2700 cu. ft. 50 psi liquid withdrawal container.

SETTING THE DIAL TEMPERATURE INDICATOR

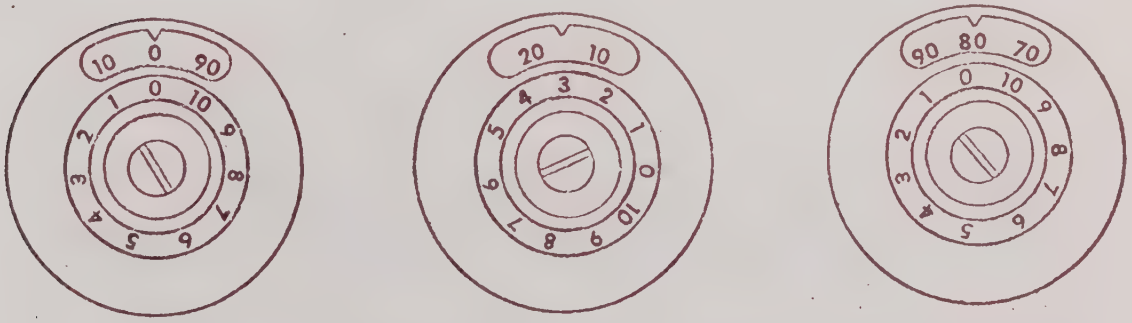
Description

Refer to example A - Set both dials at zero.

One complete rotation of the knob equals 100°. Clockwise is plus (+) degrees (F. or C) and counter-clockwise is minus (-) degrees. Each rotation of the knob is indicated by the small dial nearest the knob.

The large dial indicates each degree, every tenth numbered. Thus, as in example B, the large dial is set at 15, and the small dial is beyond 3, therefore the setting is +315°.

When setting to a minus (-) temperature it is necessary to subtract the degrees from 100, i.e., 20 from 100 equals "80" reading on the large dial to have a setting of -20°. This is shown in example C. It will be noted that the zero on the small dial is just to the left of the marker. Also, on the models having a range greater than -100°, it is necessary to keep track of the counter-clockwise rotation of the knob.



A
(0°)

B
(+315°)

C
(-20°)

FIGURE 2

ADJUSTING THE FAIL SAFE

The Failsafe is adjusted by rotating the slotted FAILSAFE control. The trip temperature is increased by rotating the control counter-clockwise and is lowered by turning the control clockwise. One full turn changes the trip temperature approximately 32°C.

The two recommended procedures for setting the Failsafe are:

(1) Operate the chamber at a known temperature. Read the temperature indication on the thermometer and ensure that the heat switch is in the ON position. Turn the Failsafe adjustment clockwise to lower the setting until the Failsafe Lamp turns on. This establishes the setting of the Failsafe. Estimate the number of turns required of the Failsafe adjustment at 32°C per turn, and rotate the control counter-clockwise to the desired setting.

(2) Operate the chamber at the maximum temperature for the test and adjust the Failsafe control so that the Failsafe is on the verge of tripping.

NOTE: DO NOT ADJUST THE FAILSAFE MORE THAN 1 FULL TURN TOWARDS LOWER TEMPERATURES (CLOCKWISE ROTATION) AFTER THE FAILSAFE LIGHT COMES ON AS THE THERMO-SWITCH UNIT CAN BE DAMAGED BY FORCING.

PROGRAMMING THE 2300 CHAMBER

Connect the correct resistances between pins 1 and 3 of the PROGRAM Jack. Set the MODE Switch to PROGRAM and the HEAT and COOL switches to their ON positions. The controller will apply heat, coolant or the absence of both as needed to obtain the programmed temperature.

A Safety plug is provided with the chamber and should be kept connected to the PROGRAM input whenever an actual programmer or actual resistance is not connected. The safety plug will prevent the chamber from accidently being programmed to a very high temperature if the MODE Switch is placed in the PROGRAM position with an open PROGRAM input.

The safety plug disables the heat and cool circuits of the controller when the MODE Switch is placed in the PROGRAM position.

2300 CHAMBER AND CONTROLLER DESCRIPTION

CHAMBER

The 2300 is a precision environmental temperature test chamber having a stainless steel interior, aluminum outer case and fiberglass insulation. The air circulation is closed and provided by a 140 CFM blower. (See Fig. 3) The chamber is heated by applying full wave power to a pair of bobbin wound nichrome 20Ω heating elements via the heat solid state switch.

The chamber is cooled by injecting liquid CO_2 (liquid nitrogen in the LN_2 models) into the air stream through an expansion nozzle. The coolant flow is metered by a solenoid valve, controlled by the cool solid state switch.

The temperature control system is shown in block diagram form as Fig. 4.

SOLID STATE CONTROLLER

The controller compares the resistance of the temperature probe to the resistance of the TEMPERATURE SET Potentiometer. (The resistance of a remote programming resistor is compared to the probe resistance if the MODE Switch is in the PROGRAM Position.)

The resistance of the probe will always be either less than, equal to, or greater than the resistance of the TEMPERATURE SET Potentiometer (program resistance). These three situations directly correspond to the chamber temperature being lower than, equal to, or higher than desired. The controller applies heat, coolant, or withholds both to obtain and maintain the selected temperature in the chamber.

NOTICE, the controller is a three mode unit, i.e.

(a) Heat only
(b) No heat or coolant
(c) Coolant only

This mode of control results in minimum coolant and power consumption.

NULL DETECTOR CIRCUIT

A contact closure is provided at the rear when the chamber reaches the indicated SET Point of the controller. This contact closure may be used to signal that the chamber has reached selected temperature.

The Delta Design Model 9307 HI-LO Step Programmer, Model 9311 TEN STEP Programmer, and the Model 9312 HI-LO-AMBIENT Programmer utilize the null contacts to start their timers when they are used with the 2300 chamber. This contact closure feature is most useful in automatic test programming applications.

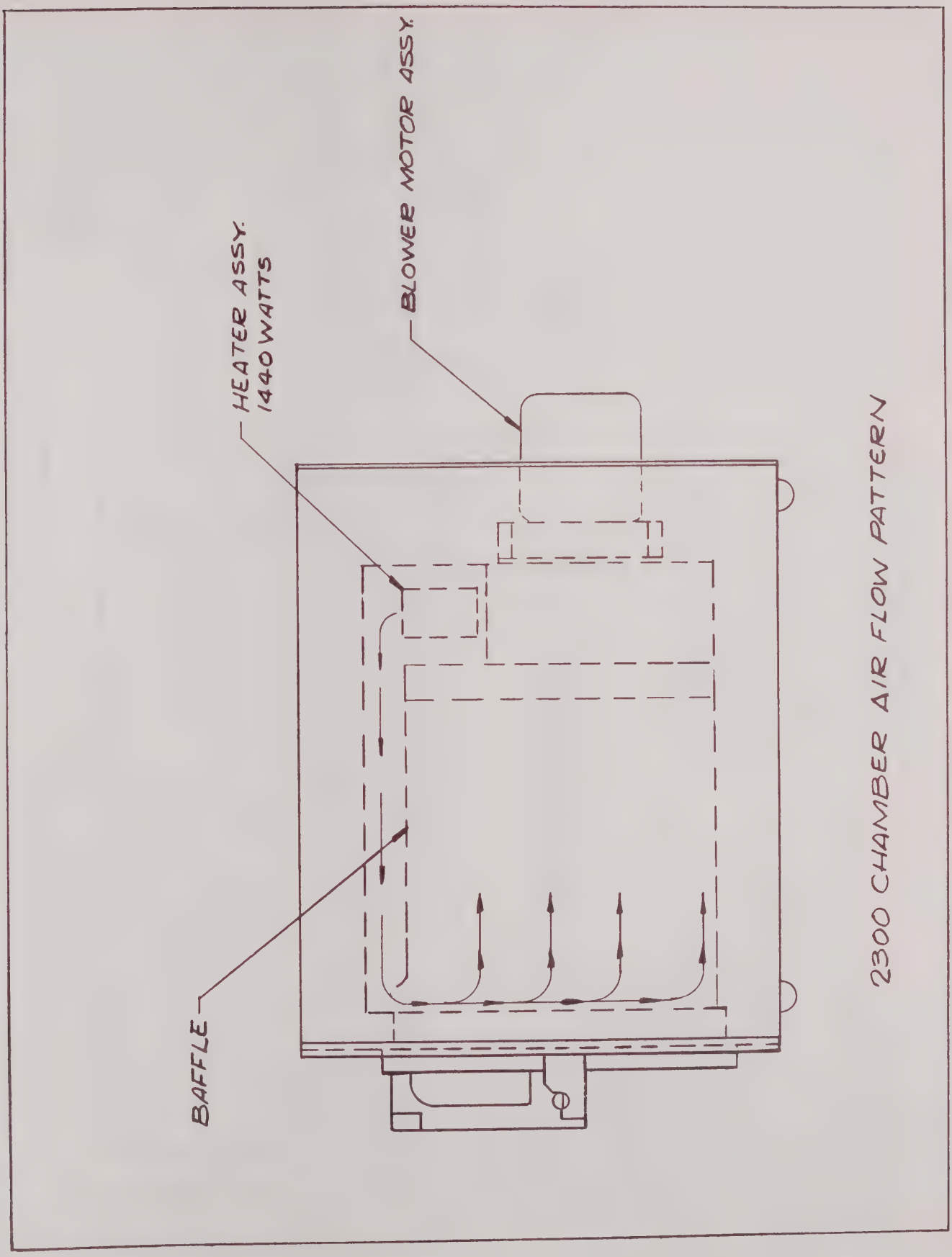
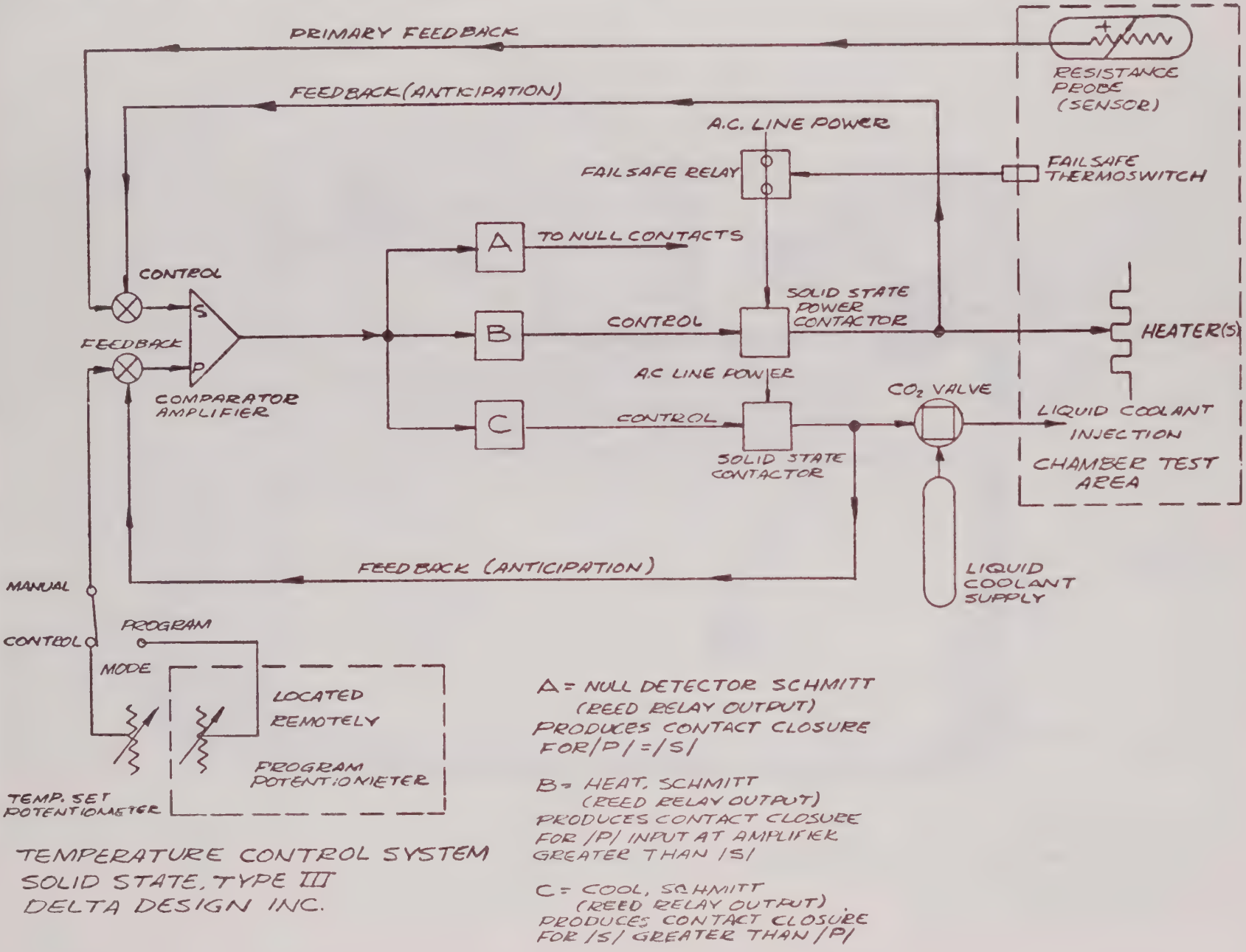

BLOWER MOTOR ASSY.
HEATER ASSY.
1440 WATTS
BAFFLE
2300 CHAMBER AIR FLOW PATTERN

FIGURE 3



TEMPERATURE CONTROL SYSTEM
SOLID STATE, TYPE III
DELTA DESIGN INC.

A = NULL DETECTOR SCHMITT
(REED RELAY OUTPUT)
PRODUCES CONTACT CLOSURE
FOR /P/ = /S/

B = HEAT, SCHMITT
(REED RELAY OUTPUT)
PRODUCES CONTACT CLOSURE
FOR /P/ INPUT AT AMPLIFIER
GREATER THAN /S/

C = COOL, SCHMITT
(REED RELAY OUTPUT)
PRODUCES CONTACT CLOSURE
FOR /S/ GREATER THAN /P/

FIGURE 4

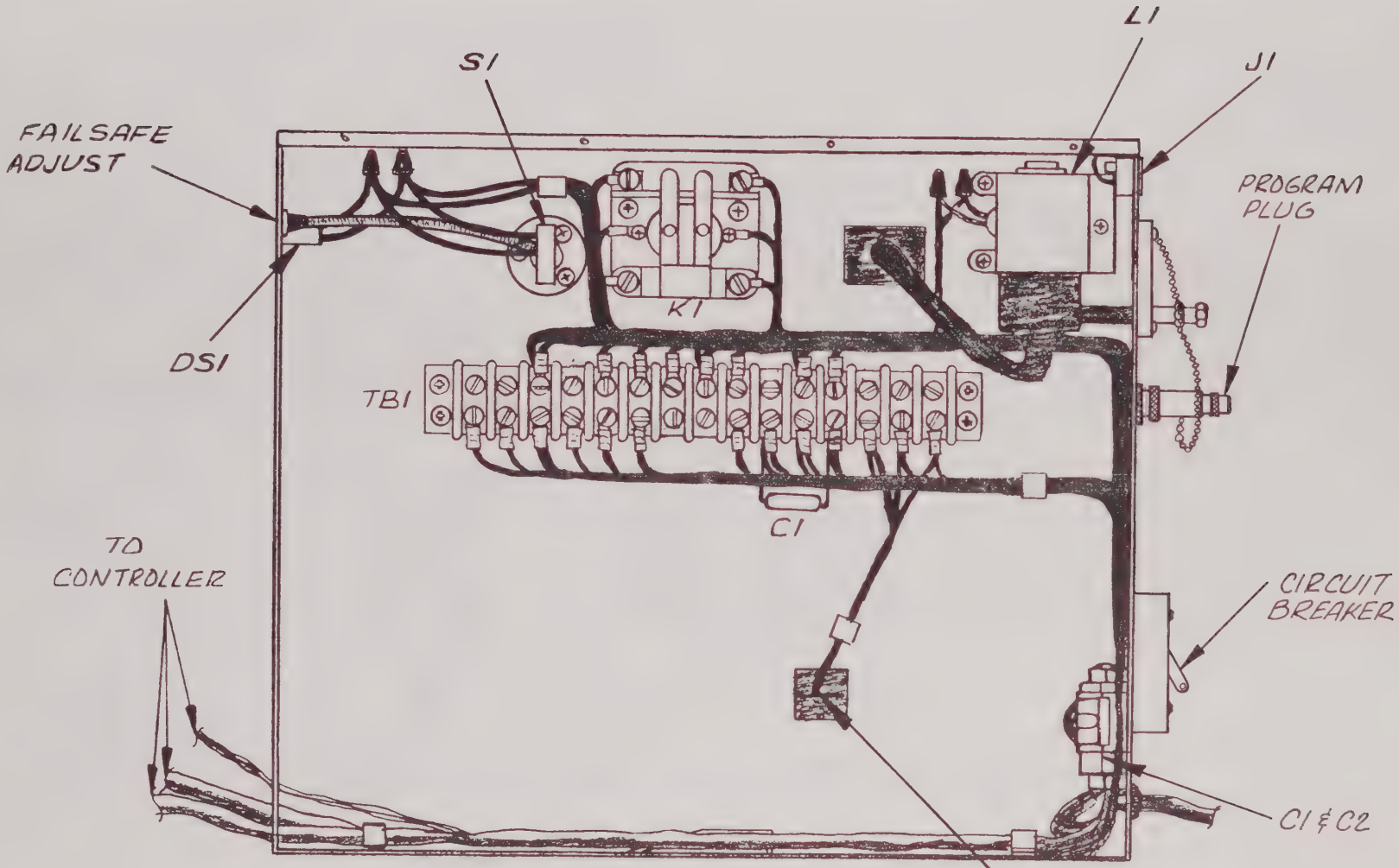


FIG 5
COMPONENT IDENTITY

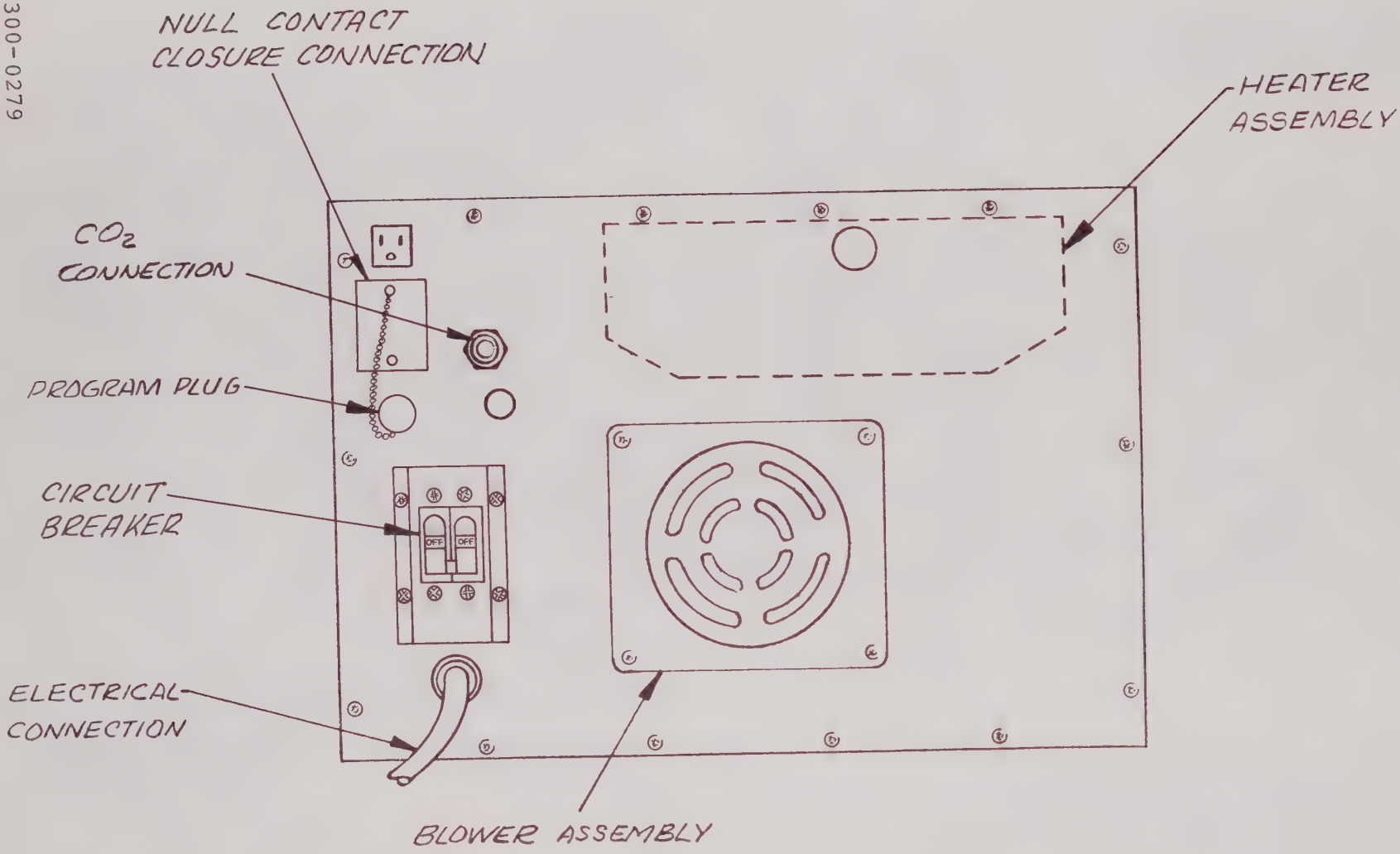
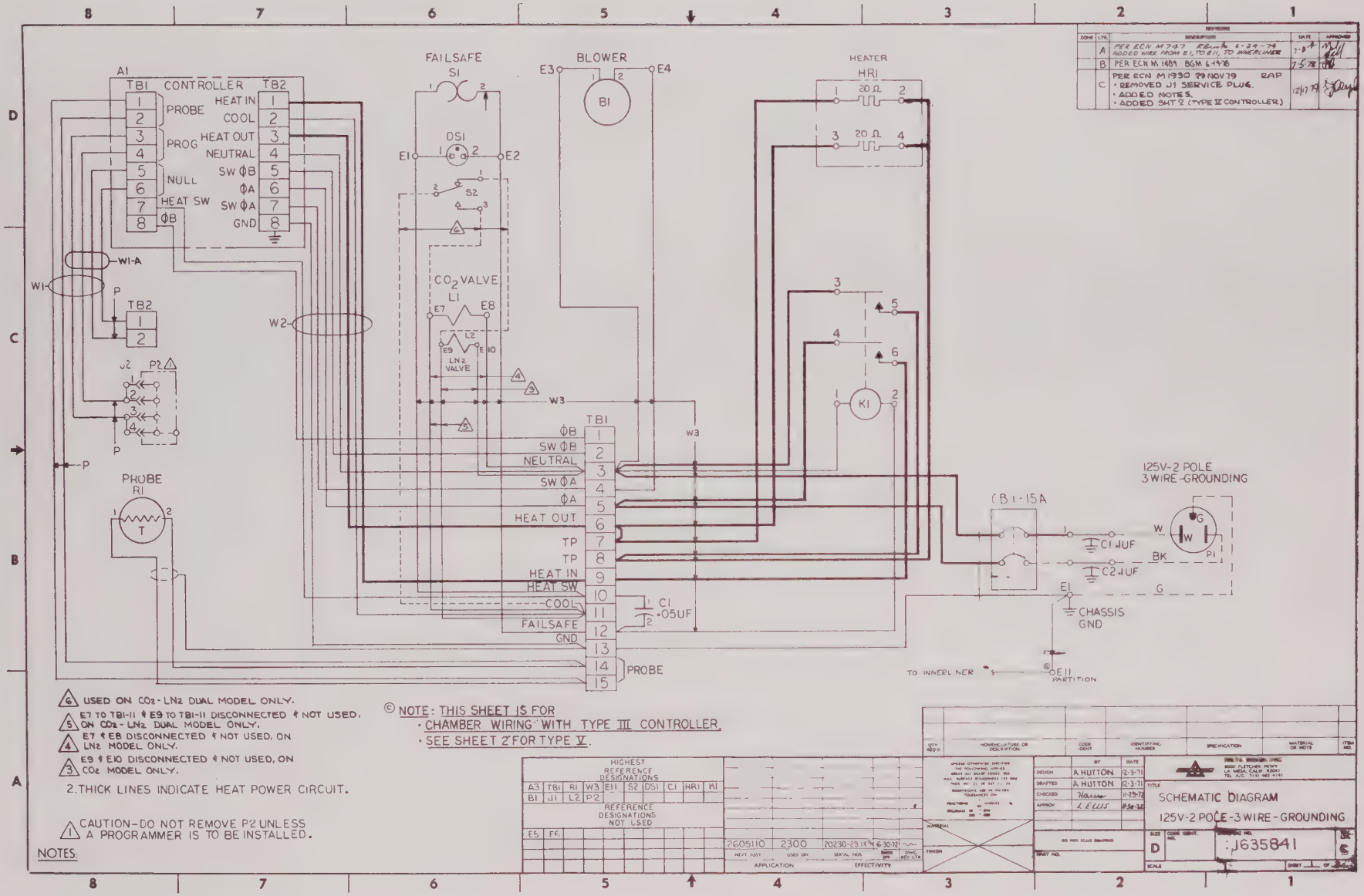


FIGURE 6

FIG. 6
2300 CHAMBER-REAR VIEW



ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	PER ECN M7437 REV'D 6-29-76 ADDED WIRE FROM E1 TO E11, TO INNER LINER	7-8-76	
	B	PER ECN M 1481 BGM 6-19-78	7-5-78	
	C	PER ECN M 1930 29 NOV 79 RAP • REMOVED J1 SERVICE PLUG. • ADDED NOTE 5. • ADDED SHT 2 (TYPE V CONTROLLER)	12/17/79	

⑥ USED ON CO_2 - LN_2 DUAL MODEL ONLY.

⑤ E7 TO TB1-11 & E9 TO TB1-11 DISCONNECTED & NOT USED, ON CO_2 - LN_2 DUAL MODEL ONLY.

④ E7 & E8 DISCONNECTED & NOT USED, ON LN_2 MODEL ONLY.

③ E9 & E10 DISCONNECTED & NOT USED, ON CO_2 MODEL ONLY.

2. THICK LINES INDICATE HEAT POWER CIRCUIT.

① CAUTION - DO NOT REMOVE P2 UNLESS A PROGRAMMER IS TO BE INSTALLED.

NOTES.

© NOTE: THIS SHEET IS FOR
- CHAMBER WIRING WITH TYPE III CONTROLLER.
- SEE SHEET 2 FOR TYPE V.

HIGHEST REFERENCE DESIGNATIONS

A3	TB1	R1	W3	E11	S2	DS1	C1	HR1	K1
B1	J1	L2	P2						

REFERENCE DESIGNATIONS NOT USED

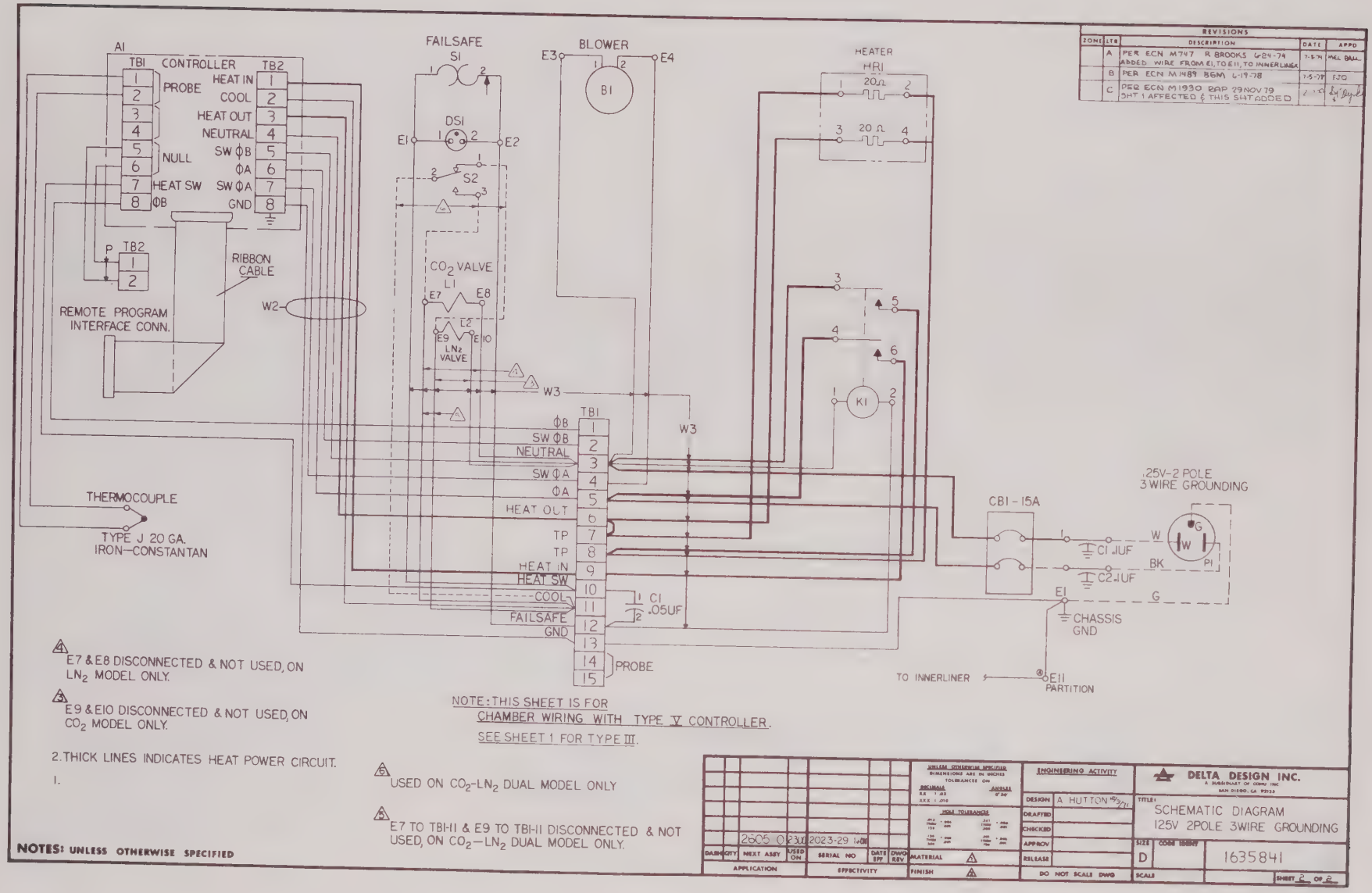
E5	F6								

	BY	DATE
DESIGN	A. HUTTON	12-3-71
DRAFTED	A. HUTTON	12-3-71
CHECKED	Hasse	11-29-72
APPROV	L ELLIS	11-30-72

APPLICATION: 2605110 2300 20230-23 19 6-30-72

SCHEMATIC DIAGRAM
125V-2 POLE-3 WIRE-GROUNDING

SIZE D | DRAWING NO. J635841 | SHEET 1 OF 2



NOTE: THIS SHEET IS FOR CHAMBER WIRING WITH TYPE V CONTROLLER.

SEE SHEET 1 FOR TYPE III.

4. E7 & E8 DISCONNECTED & NOT USED, ON LN_2 MODEL ONLY.

3. E9 & E10 DISCONNECTED & NOT USED, ON CO_2 MODEL ONLY.

2. THICK LINES INDICATES HEAT POWER CIRCUIT.

1.

5. USED ON CO_2-LN_2 DUAL MODEL ONLY

6. E7 TO TB1-11 & E9 TO TB1-11 DISCONNECTED & NOT USED, ON CO_2—LN_2 DUAL MODEL ONLY.

NOTES: UNLESS OTHERWISE SPECIFIED

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPD
	A	PER ECN M747 R BROOKS 6-24-74 ADDED WIRE FROM E1, TO E11, TO INNERLINER	7-5-74	MEL BALL
	B	PER ECN M1489 BGM 6-19-78	7-5-78	FJO
	C	PER ECN M1930 RAP 29NOV79 SHT 1 AFFECTED & THIS SHT ADDED	2-[illegible]	[illegible]

DASH QTY	NEXT ASSY	USED ON	SERIAL NO	DATE EFF	DWG REV	MATERIAL ⚠	ENGINEERING ACTIVITY
APPLICATION			EFFECTIVITY			FINISH ⚠	DESIGN A HUTTON 4/3/79
							DRAFTED
							CHECKED
							APPROV
							RELEASE
							DO NOT SCALE DWG

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON: DECIMALS X.X ±.03, X.XX ±.010; ANGLES ±0°30'; HOLE TOLERANCES

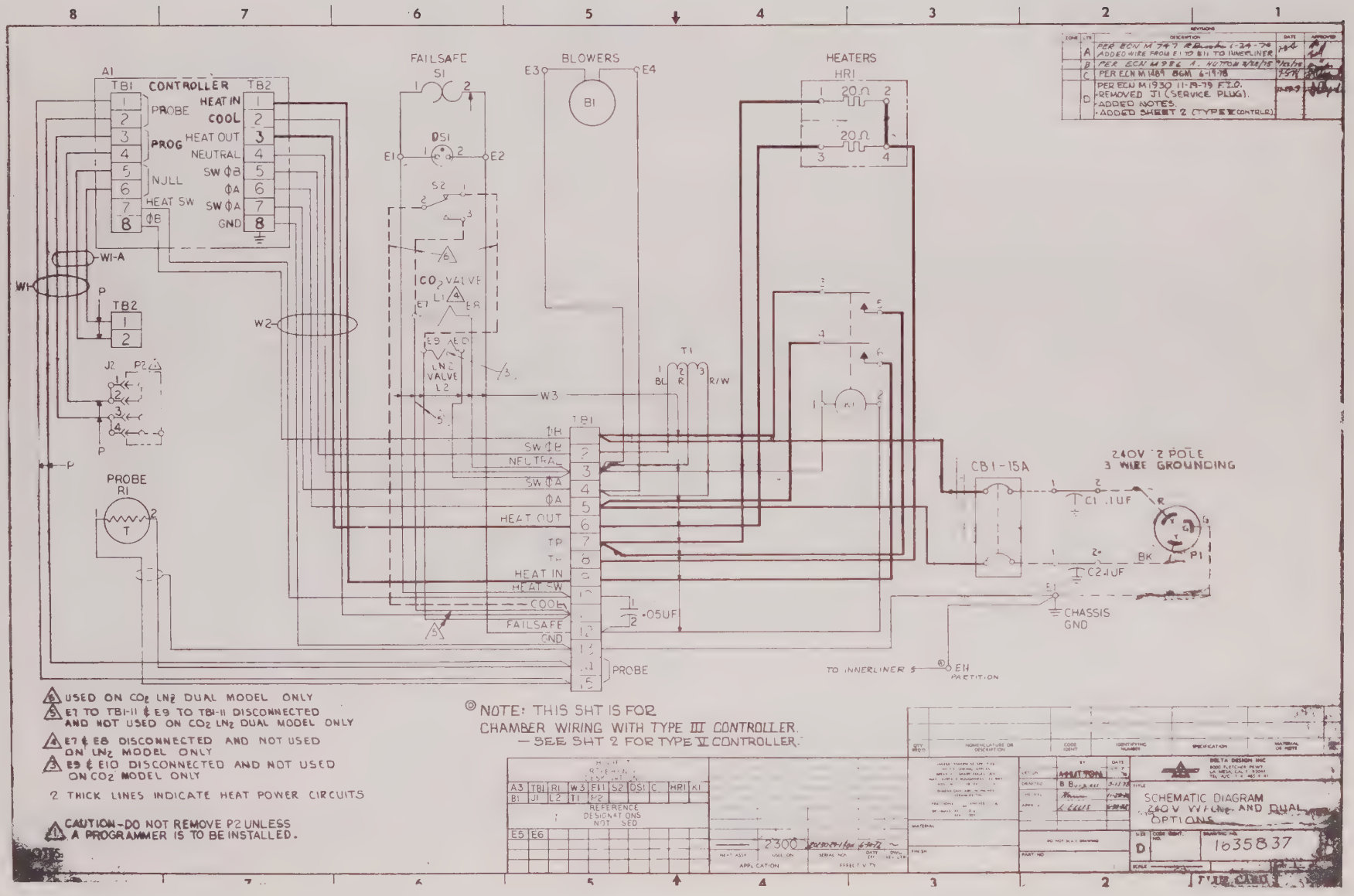
2605 0230 2023-29 1401

DELTA DESIGN INC.
A SUBSIDIARY OF GENRAD INC
SAN DIEGO, CA 92123

TITLE: SCHEMATIC DIAGRAM 125V 2POLE 3WIRE GROUNDING

SIZE D | CODE IDENT | 1635841

SCALE | SHEET 2 OF 2



ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	PER ECN M 747 ADDED WIRE FROM E1 TO E11 TO INNERLINER	1-24-78	
	B	PER ECN M 986 A. HUTTON	4/28/78	
	C	PER ECN M 1484 BGM 6-19-78		
	D	PER ECN M 1930 11-19-79 F.T.O. REMOVED J1 (SERVICE PLUG). ADDED NOTES. ADDED SHEET 2 (TYPE X CONTROL)		

⑥ USED ON CO_2 LN_2 DUAL MODEL ONLY

⑤ E7 TO TB1-11 & E9 TO TB1-11 DISCONNECTED AND NOT USED ON CO_2 LN_2 DUAL MODEL ONLY

④ E7 & E8 DISCONNECTED AND NOT USED ON LN_2 MODEL ONLY

③ E9 & E10 DISCONNECTED AND NOT USED ON CO_2 MODEL ONLY

2 THICK LINES INDICATE HEAT POWER CIRCUITS

⚠ CAUTION-DO NOT REMOVE P2 UNLESS A PROGRAMMER IS TO BE INSTALLED.

◎ NOTE: THIS SHT IS FOR CHAMBER WIRING WITH TYPE III CONTROLLER. — SEE SHT 2 FOR TYPE V CONTROLLER.

A3	TB1	R1	W3	F11	S2	DS1	C	HR1	K1
B1	J1	L2	T1	P2					

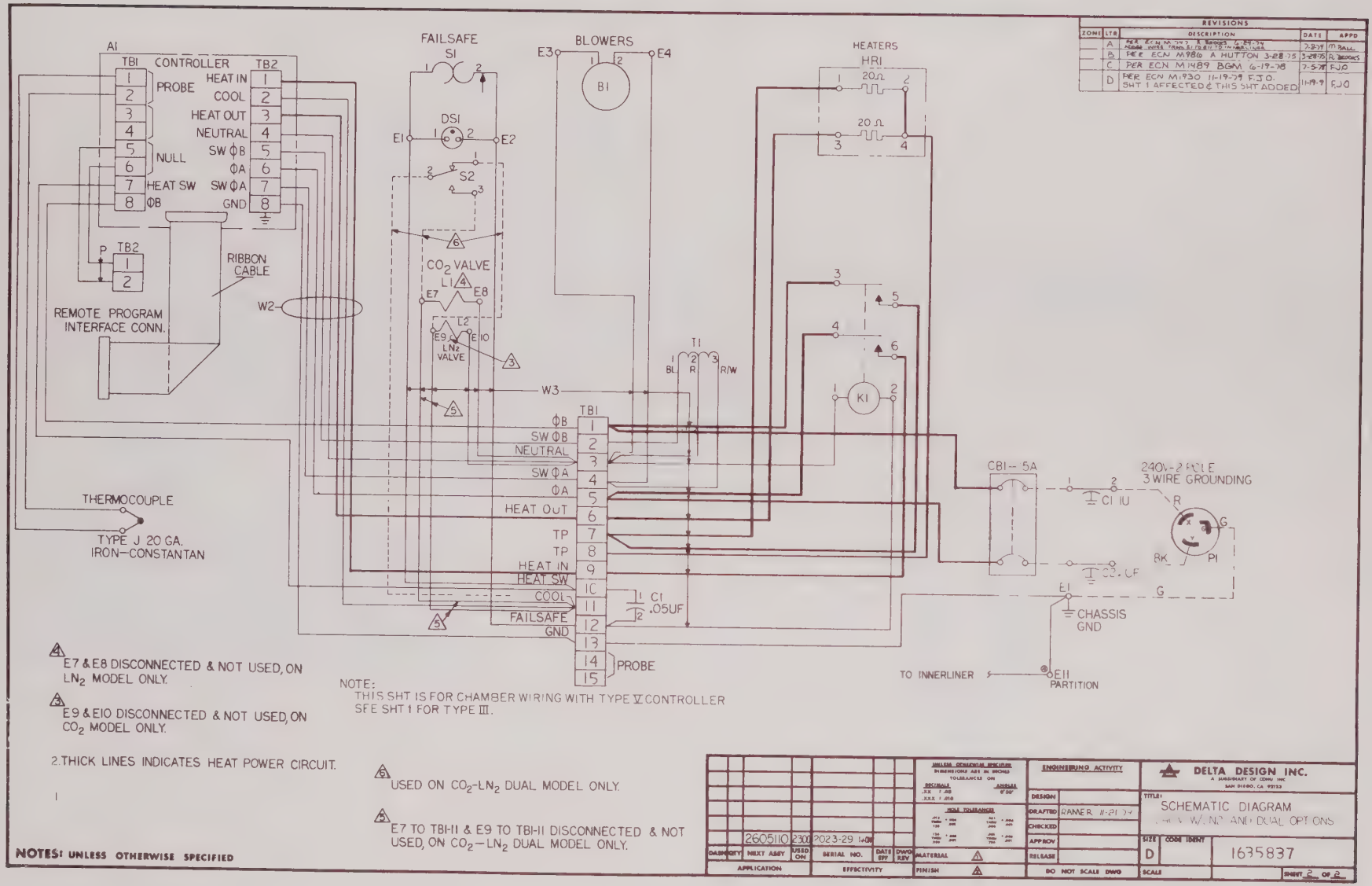
REFERENCE DESIGNATIONS NOT USED

E5 E6

2300 SERIES

APPLICATION

DELTA DESIGN INC
SCHEMATIC DIAGRAM
240 V 1Ø 1LINE AND DUAL OPTIONS
SIZE D
1635837



NOTE:
THIS SHT IS FOR CHAMBER WIRING WITH TYPE V CONTROLLER
SEE SHT 1 FOR TYPE III.

4 E7 & E8 DISCONNECTED & NOT USED, ON LN_2 MODEL ONLY.

3 E9 & E10 DISCONNECTED & NOT USED, ON CO_2 MODEL ONLY.

2. THICK LINES INDICATES HEAT POWER CIRCUIT.

1

5 USED ON CO_2-LN_2 DUAL MODEL ONLY.

6 E7 TO TB1-11 & E9 TO TB1-11 DISCONNECTED & NOT USED, ON CO_2-LN_2 DUAL MODEL ONLY.

NOTES: UNLESS OTHERWISE SPECIFIED

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPD
	A	PER ECN M1340 R. BROOKS 7-29-74 MOVE WIRE FROM E1 TO E11 TO INNERLINER	7-29-74	M BALL
	B	PER ECN M1980 A HUTTON 3-28-75	3-28-75	R. BROOKS
	C	PER ECN M1489 BGM 6-19-78	7-5-78	FJO
	D	PER ECN M1930 11-19-79 FJO. SHT 1 AFFECTED & THIS SHT ADDED	11-19-79	FJO

2605110	2300	2023-29	1-01				
DASH NO.	NEXT ASSY	USED ON	SERIAL NO.	DATE EFF	DWG REV	MATERIAL	
APPLICATION			EFFECTIVITY			FINISH	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .010 .XXX ± .010
ANGLES ± 0°30'
HOLE TOLERANCE

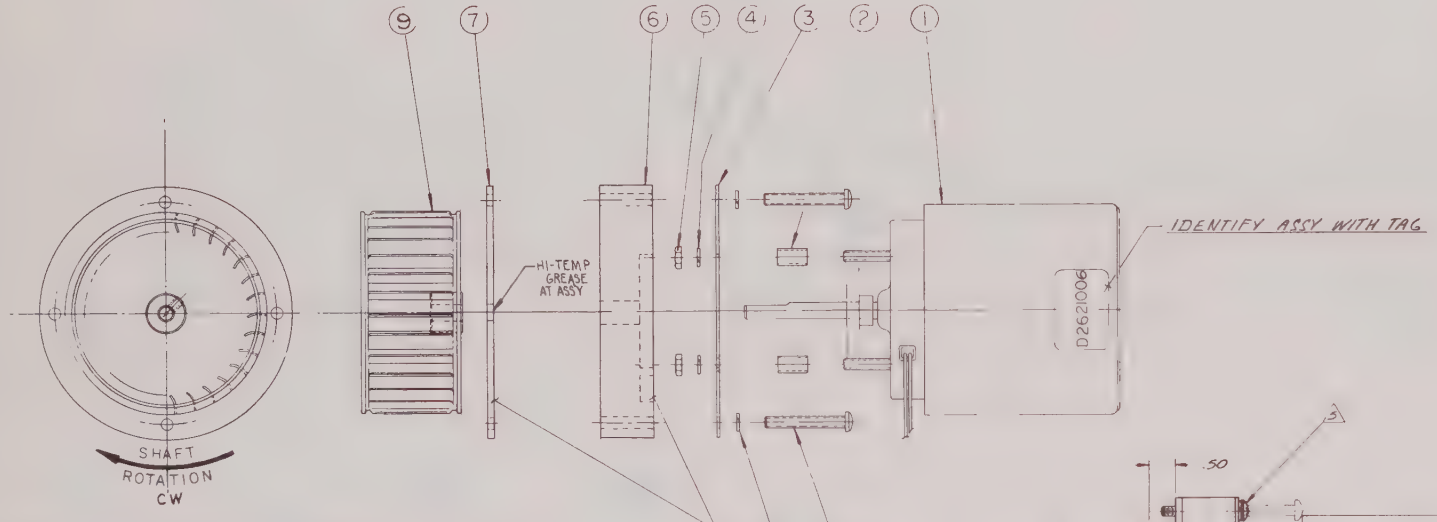
ENGINEERING ACTIVITY	
DESIGN	
DRAFTED	RAMER 11-21-74
CHECKED	
APPROV	
RELEASE	
DO NOT SCALE DWG	

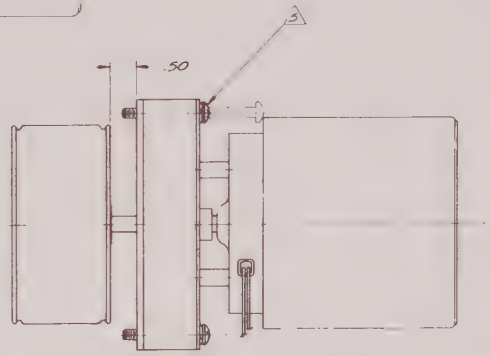
DELTA DESIGN INC.
A SUBSIDIARY OF CONN INC
SAN DIEGO, CA 92123

TITLE: SCHEMATIC DIAGRAM
... W/ AND DUAL OPTIONS

SIZE	CODE IDENT	
D		1635837
SCALE		SHEET 2 OF 2

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	PER E.C.N. M1401 5-7-78 BGM REVISED NOTE 3	5-4-78	





1.) MOTOR: 115 V. 50/60 Hz (NO THERMAL PROTECTION) SEALED BALL BEARING SHAFT ROTATION

2.) IMPELLER: REVCOR #0381-187 S (CCW ROTATION) ALTER PER B1632186

3.) RTV ITEM 7 TO ITEM 6: ATTACH ITEM 3 (MOTOR PLATE) TO ITEM 1 (MOTOR) USING HARDWARE, THEN RTV TO ITEM 6

4.) BLOWER MOTOR ASSY RATED AT 140 C.F.M. AIR MOVEMENT, NOM.

3 TAPE ITEMS 4 & 10 IN PLACE TO PREVENT BEING JARRED LOOSE BEFORE INSTALLING ON CHAMBER.

QTY. REQ'D	NOMENCLATURE OR DESCRIPTION	CODE IDENT.	IDENTIFYING NUMBER	SPECIFICATION	MATERIAL OR NOTE	ITEM NO.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON
FRACTIONS ± 1/64 DECIMALS .XX ± .010 .XXX ± .005 ANGLES ± 1/2°
MATERIAL
FINISH

	BY	DATE
DESIGN	L. ELLIS	4/4/78
DRAFTED	L. ELLIS	4/5/78
CHECKED		5/4/78
APPRO.		

DELTA DESIGN INC
9500 FLETCHER PKWY
LA MESA, CALIF. 92041
TEL (714) 465 9411

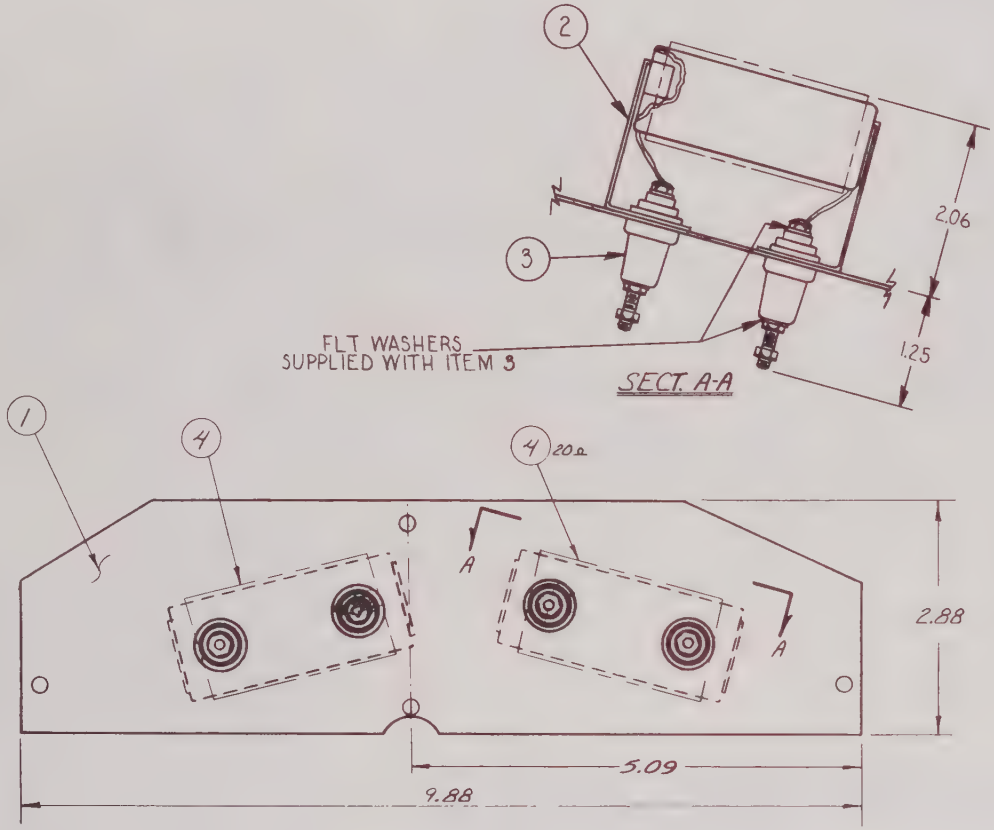
TITLE: 50/60 Hz BLOWER MTR. ASSEMBLY CW SHAFT ROTATION

MODEL NO	SIZE	CODE IDENT NO	DRAWING NO	REV LTR
STD PART	D		2621006	A
PART NO 2621006	SCALE FULL		SHEET 1 OF 1	

APPLICATION		EFFECTIVITY		
NEXT ASSY	USED ON	SERIAL NOS	DATE EFF	DWG REV LTR
MULTI-USAGE	STD		2370	N/C

NOTES:

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	PER ECN 1340 2-28-78 BGM INCORPERATED TCN X452; SEE OBSOLETED NO REV. DWG FOR WAS CONDITION	3-1-78	



P/L "A" SIZE

QTY REQ'D	NOMENCLATURE OR DESCRIPTION	CODE IDENT.	IDENTIFYING NUMBER	SPECIFICATION	MATERIAL OR NOTE	ITEM NO.

APPLICATION		EFFECTIVITY		
NEXT ASSY	USED ON	SERIAL NOS	DATE EFF	DWG REV LTR
	8014			
2605110	2300			

UNLESS OTHERWISE SPECIFIED
THE FOLLOWING APPLIES
BREAK ALL SHARP EDGES .005
MAX SURFACE ROUGHNESS 125 RMS
THDS INT. CL 2B EXT CL 2A
DIMENSIONS ARE IN INCHES
TOLERANCES ON
FRACTIONS ± 1/64 ANGLES ± ½°
DECIMALS .XX ± .010
.XXX ± .005

MATERIAL

FINISH

	BY	DATE
DESIGN		
DRAFTED	KNAPP	5-9-72
CHECKED	Harris	7-6-72
APPROV.	L. ELLIS	7-6-72

DO NOT SCALE DRAWING

PART NO. 2635877

DELTA DESIGN INC.
8000 FLETCHER PKWY.
LA MESA, CALIF. 92041
TEL A/C (714) 465 4141

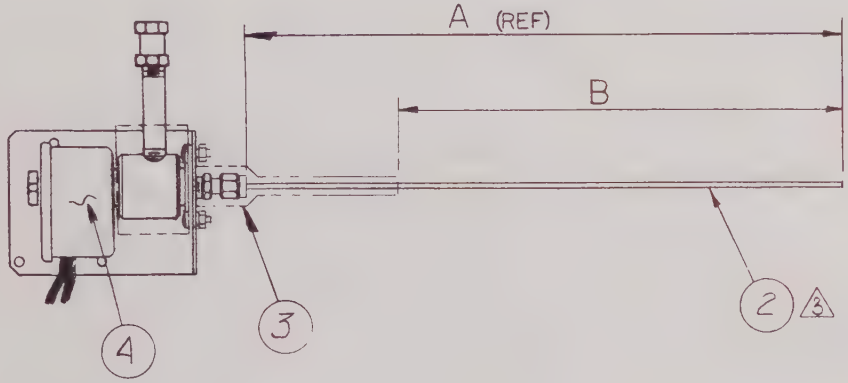
TITLE: HEATER ASSY

SIZE	CODE IDENT. NO.	DRAWING NO.	REV LTR
C		2622521	A

SCALE FULL SHEET 1 OF 1

1. ALL DIM. REF ONLY

NOTES:



REVISIONS				
ZONE	LTR	DESRIPTION	DATE	APPD
	A	PER ECN M694 DTD 6-4-74 F.J.O. 4.75 DIM WAS 3.75		11.3.74 6-6-74
	B	PER ECN M747 R.B. 6-24-74 -001 "B" DIM. WAS 4.75	7-8-74	[illegible] Ball
	C	PER ECN M1012 OLEJNIK 6-11-75 -002 "A" DIM WAS 10.44 "B" DIM WAS 3.00	6/12/75	R [illegible]
	D	PER ECN M1017 OLEJNIK 7-16-75	[illegible]	[illegible]
	E	PER ECN 1365 BGM 3-28-78 VALVE ASSY ITEM 4 UPDATED, SEE ECN — TABULATION BLOCK 450 WAS 300	4-13-78	[illegible]
	F	PER ECN M1521 BGM 7-20-78 INJECTOR ASSY ITEM 2 UPDATED, A+B DIMS CHANGED IN TABULATION BLOCK, SEE ECN	7/31/78	[illegible]

DASH NO	A	B	USED ON
-001	8.62	3.75	2300
-002	10.12	5.50	2850
-003	7.00	6.00	7650
-004	9.18	6.00	5900
-005	26.62	20.00	2850
-006			
-007			
-008			
-009			
-010			

3 INSERT ITEM 2, TUBE, ALL THE WAY TO VALVES INNER ORIFICE BEFORE TIGHTENING DOWN TUBE FITTINGS

2 FINISH (IF APPLICABLE)

1 MATL (IF APPLICABLE)

NOTES: UNLESS OTHERWISE SPECIFIED

DASH	QTY	NEXT ASSY	USED ON
		MULTIPLE	STD USAGE
APPLICATION			

SERIAL NO.	DATE EFF	DWG REV
EFFECTIVITY		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS: .XX ± .03; .XXX ± .010
ANGLES: 0° 30'
HOLE TOLERANCES
.013 THRU .125 +.004 −.001
.126 THRU .250 +.005 −.001
.251 THRU .500 +.006 −.001
.501 THRU .750 +.008 −.001

MATERIAL 1
FINISH 2

ENGINEERING ACTIVITY	
DESIGN	
DRAFTED	KNAPP 3-29-73
CHECKED	[illegible]
APPROV	[illegible] 4-6-73
RELEASE	
DO NOT SCALE DWG	

DELTA DESIGN INC.
A SUBSIDIARY OF CONU INC.
5725 KEARNY VILLA RD SAN DIEGO, CA. 92123 - TEL (714) 292-5000

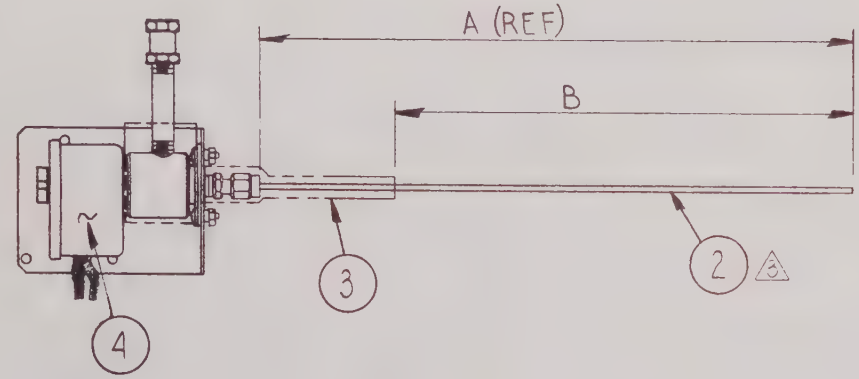
TITLE: CO_2 ASSY (900 PSI) SINGLE STEM

SIZE	CODE IDENT	
B		2618016

SCALE 1/2 X SHEET 1 OF 1

INITIAL RELEASE ECN A9..

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPD
	B	PER ECN M1365 4-14-78 F.J.O.	4-14-78	
	C	PER ECN M1521 BGM 7-21-78 INJECTOR ASSY ITEM 2, UPDATED, A & B DIMS. CHANGED IN TABULATION BLOCK, SEE ECN	7-31-78	



DASH NO	A	B	USED ON
-001	8.62	3.75	2300
-002	10.12	5.50	2850
-003	7.00	6.00	7650
-004	9.18	6.00	5900
-005	26.62	20.00	2850
-006			
-007			
-008			
-009			
-010			

3 INSERT ITEM 2, TUBE, ALL THE WAY TO VALVE'S INNER ORIFICE BEFORE TIGHTENING TUBE FITTINGS

4 FINISH (IF APPLICABLE)

4 MATL (IF APPLICABLE)

NOTES: UNLESS OTHERWISE SPECIFIED

MULTI-STD USAGE

DASH	QTY	NEXT ASSY	USED ON	SERIAL NO.	DATE EFF	DWG REV
APPLICATION				EFFECTIVITY		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03, .XXX ± .010
ANGLES 0° 30'
HOLE TOLERANCES
.013 THRU .129 +.004 -.001
131 THRU .300 +.006 -.001
126 THRU 250 +.005 -.001
.301 THRU .750 +.008 -.001

MATERIAL 1
FINISH 2

ENGINEERING ACTIVITY: ECN 1365

DESIGN	
DRAFTED	BGM 3-26-78
CHECKED	
APPROV	
RELEASE	

DO NO SCALE DWG

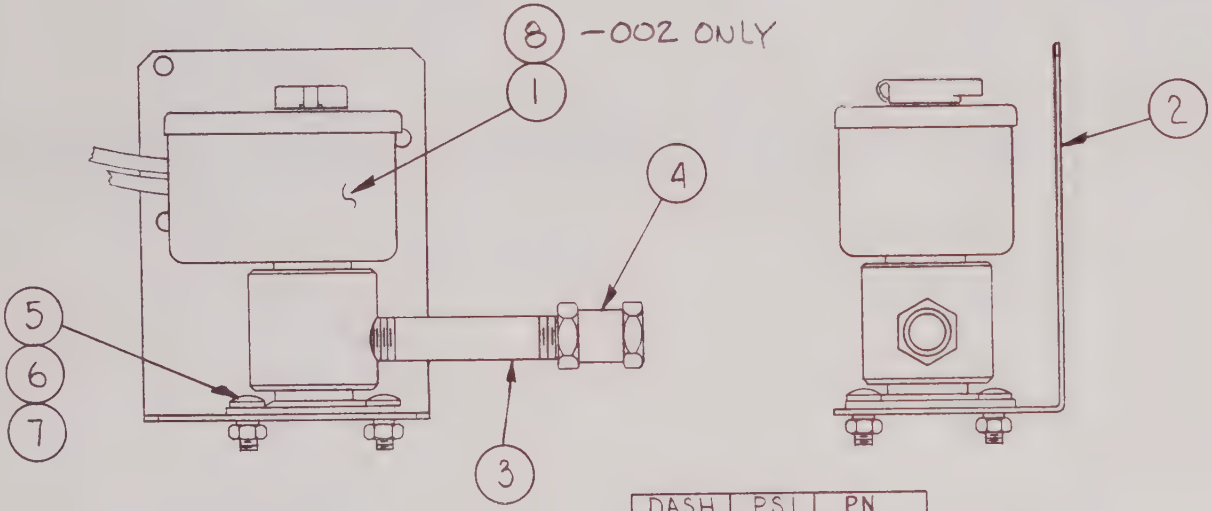
DELTA DESIGN INC.
A SUBSIDIARY OF COMU INC.
SAN DIEGO, CA. 92123

TITLE: CO_2 ASSY. (300 PSI) SINGLE STEM

SIZE	CODE IDENT	
B		2618015

SCALE 1/2 SHEET 1 OF 1

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPD



DASH	PSI	PN
-001	900	1800117
-002	300	1800105

⚠ FINISH (IF APPLICABLE)

⚠ MATL (IF APPLICABLE)

NOTES: UNLESS OTHERWISE SPECIFIED

DASH	QTY	NEXT ASSY	USED ON
		MULTI-USAGE	

APPLICATION

SERIAL NO. | DATE EFF | DWG REV

EFFECTIVITY

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03, .XXX ± .010
ANGLES 0°30'

HOLE TOLERANCES
.013 THRU .123 + .004 − .001
.126 THRU .250 + .005 − .001
.251 THRU .500 + .006 − .001
.501 THRU .750 + .008 − .001

MATERIAL ⚠
FINISH ⚠

ENGINEERING ACTIVITY

DESIGN	
DRAFTED	BGM 3-24-78
CHECKED	
APPROV	
RELEASE	

DO NO SCALE DWG

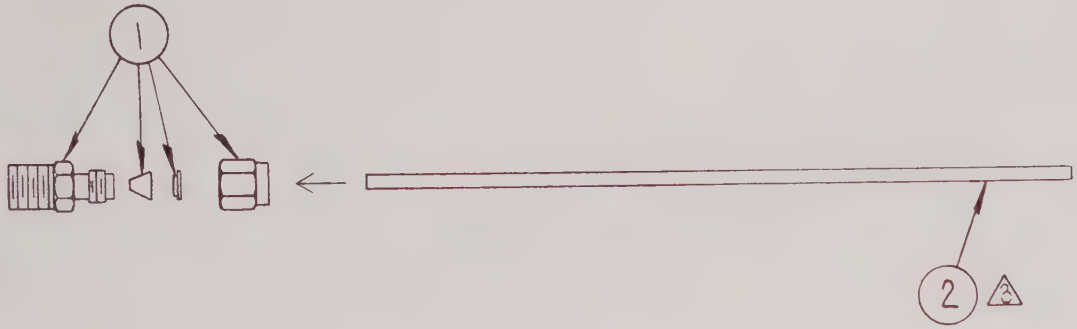
DELTA DESIGN INC.
A SUBSIDIARY OF CONU INC.
SAN DIEGO, CA. 92123

TITLE: CO_2 VALVE & BRACKET ASSY

SIZE B | CODE IDENT | 1647407

SCALE 1/1 | SHEET 1 OF 1

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPD



4) FOR INSTRUCTIONS ON HOW TO ASSEMBLE SEE NEXT ASSEMBLY

3 REMOVE ALL BURRS & SHARP EDGES, CLEAR I.D. OF ANY OBSTRUCTIONS

4 FINISH (IF APPLICABLE)

1 MATL (IF APPLICABLE)

NOTES: UNLESS OTHERWISE SPECIFIED

DASH	QTY	NEXT ASSY	USED ON
		2618016	-002
		2618015	-001

APPLICATION

SERIAL NO. | DATE EFF | DWG REV

EFFECTIVITY

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS: .XX ± .03; .XXX ± .010
ANGLES: 0° 30'

HOLE TOLERANCES
.013 THRU .125 +.004 −.001
.126 THRU .250 +.005 −.001
.251 THRU .500 +.006 −.001
.501 THRU .750 +.008 −.001

MATERIAL 1
FINISH 4

ENGINEERING ACTIVITY
ECN M1521

DESIGN	
DRAFTED	BGM 7-14-78
CHECKED	
APPROV	
RELEASE	

DO NO SCALE DWG

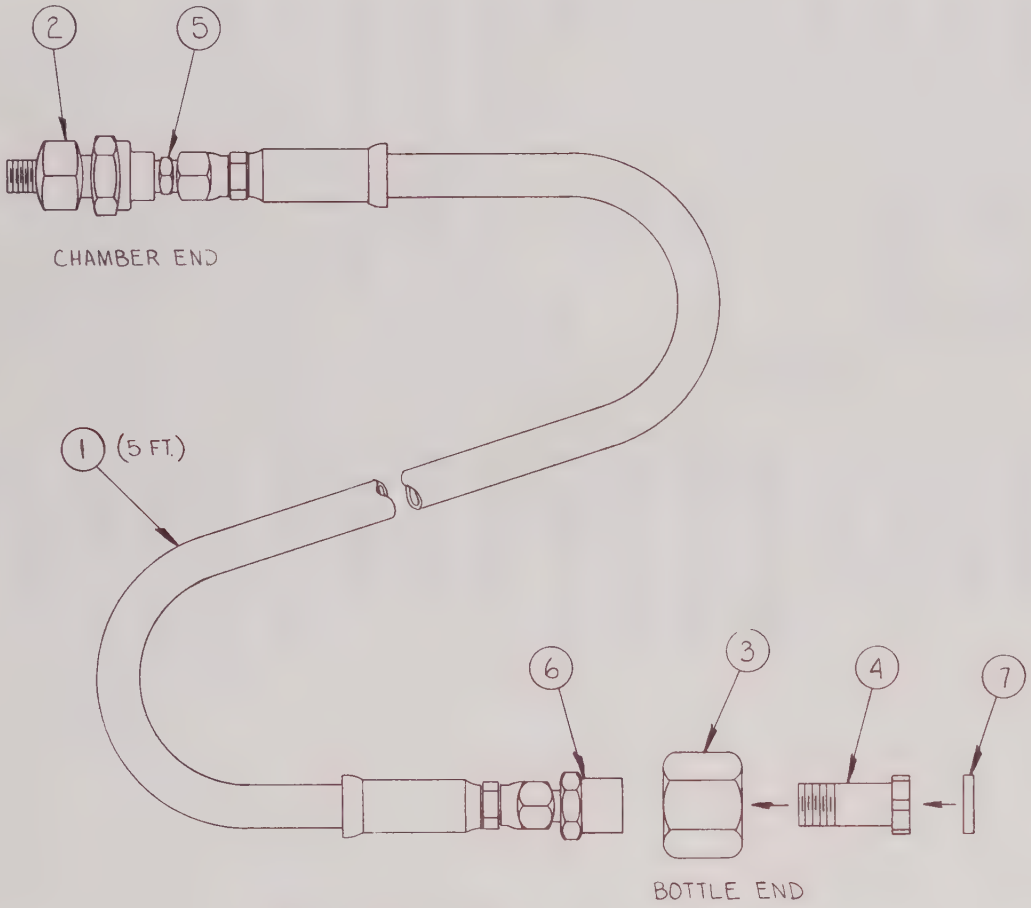
DELTA DESIGN INC.
A SUBSIDIARY OF CONU INC.
SAN DIEGO, CA. 92123

TITLE: INJECTOR ASSY, CO_2 SINGLE STEM

SIZE B | CODE IDENT | 1647840

SCALE NONE | SHEET 1 OF 1

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPD



DASH	QTY	NEXT ASSY	USED ON
001	1	1640111	8000
001	1		7650
001	1	2636342	6400
001	1	2635601	5900
001	1	2636283	3900
001	1	2635402	2850
001	1	2605110	2300

APPLICATION

SERIAL NO.	DATE EFF	DWG REV

EFFECTIVITY

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON

DECIMALS	ANGLES
.XX ± .03	0° 30'
.XXX ± .010	

HOLE TOLERANCES

.013 THRU .125 +.004 −.001	.251 THRU .500 +.006 −.001
.126 THRU .250 +.005 −.001	.501 THRU .750 +.006 −.001

MATERIAL ⚠1

FINISH ⚠2

ENGINEERING ACTIVITY
ECN M1622

DESIGN	B MOLSEN 10-2-78
DRAFTED	
CHECKED	
APPROV	
RELEASE	

DO NOT SCALE DWG

DELTA DESIGN INC.
A SUBSIDIARY OF CONU INC.
SAN DIEGO, CA. 92123

TITLE: HOSE SHIP KIT

SIZE C | CODE IDENT | 2618020

SCALE 1/1 | SHEET 1 OF 1

⚠ FINISH (IF APPLICABLE)

⚠ MATL (IF APPLICABLE)

NOTES: UNLESS OTHERWISE SPECIFIED

INDEX OF ASSEMBLIES - 2300 CHAMBER

	TITLE	SIZE & NO.	SHEET
1).	Innerliner Ass'y	D2631670	1
2).	Spotweld Ass'y	D2631669	1
3).	Top Sheet Ass'y	D2600028	1
4).	Can Ass'y	B2632196	2
5).	Scroll Ass'y	D2635606	2
6).	Baffle Ass'y	D2600201	2
7).	Bottom Panel Ass'y	D2600032	3
8).	Rear Panel Ass'y	E2600033	3
9).	Right Side Panel Ass'y	D2600034	3
10).	Bezel Ass'y	C2600002	3
11).	Partition Ass'y	D2635393-001	4
12).	Cable Ass'y (W1)	A2635264-004	4
13).	Cable Ass'y (W2)	A2635265-002	4
14).	Weld Ass'y - Tube Guide	B1640309-001	4
15).	Blower Motor Ass'y (B1)	D2621006	5
16).	Thermoswitch Ass'y (S1)	B2602503	5
17).	Heater Ass'y (HR1)	C2622521	5
18).	Element Ass'y	B2635875-004	6
19).	CO_2 Ass'y (L1)	B2618016-001	6
20).	CO_2 Injector Ass'y	B1647840-002	6
21).	CO_2 Valve & Bracket Ass'y	B1647407-001	6
22).	Signal Panel Ass'y (A3)	B2635055	7
23).	Plug Modification (P1)	B2600409	7

INDEX OF ASSEMBLIES - 2300 CHAMBER (cont.)

	TITLE	SIZE & NO.	SHEET
24).	Power Panel Ass'y (A2)	C2635058	7
25).	Panel Ass'y	C2635057-003	7
26).	Capacitor Mod. (C1, C2)	A2635048	8
27).	Cable Ass'y (W3)	A2635833-001	8
28).	Hose Ship Kit	C2618020-001	10
29).	CO_2 Ass'y Single Stem (300PSI)	B2618015-001	11
30).	Injector Ass'y, CO_2 Single Stem	B1647840-001	11
31).	CO_2 Valve & Bracket Ass'y	B1647407-002	11

PL 2605110 REV ____ SHT 1 OF 11

DESCRIPTION TOP ASS'Y. 2300 CHAMBER

NEXT ASSY END ITEM BY ARuma CK'D ____ APPD ____

REV	ECN	DATE	BY	APP
P	1490	6-20	TA	
Q	1989	6-29	RM	
R	1521	7-28	RM	
S	1628	10-7-78	RM	

DELTA DESIGN
5725 KEARNY VILLA RD
SAN DIEGO, CALIF

JOB NO ____ S.O. NO ____
QTY ____ PROM DATE ____ ACT ____
RUN * ____ MACH ____

ITEM NO	ASSY & QTY -001	-002	-003	-004	INDENTURE	SIZE	DRAWING NO.	REV	DESCRIPTION	MFG OR MFG NO	STOCK OR PART NO	JOB QTY	AUL	QTY REC	FAB CD	PURCHASING PO NO	QTY DUE REC	MANUFACTURE ACT STD HRS	EST ACT COM HRS	PLATE/PAINT IN	OUT	AREA
00	X					E	2605110	M	CHAMBER ASS'Y.	MODEL 2300	2605110											
00																						
00	REF					D	1635841	A	SCHEMATIC													
00	REF					D	1635837	B	SCHEMATIC 240 VAC													
00	REF					C	2635836		125 TO 240 VAC CONVERSION													
00	REF					D	1643453	B	CO_2 TO LN_2 CHAMBER CONVERSION ASS'Y.													
00	REF					D	2639165	C	CO_2 & LN_2 DUAL CONVERSION													
00	REF					E	1600040	K	PANEL, FRONT (RACK)													
00	REF					P/L	1648289		TOP ASSY, TYPE III CONTROLLER													
00																						
01	1					D	2631670	B	INNERLINER ASS'Y.		2631670											
00																						
00																						
01	1					D	2631669	C	SPOTWELD ASS'Y.		2631669											
00																						
01	2					B	1602518	C	SHEET, JAMB, LEFT & RIGHT		1602518											
02	1					D	1600021	E	SHEET, REAR BAFFLE		1600021											
03	2					B	1600024	E	SHEET, JAMB, TOP & BOTTOM		1600024											
04	1					D	1600025	E	SHEET, BASE		1600025											
05	1					D	1600026	L	SHEET, RIGHT SIDE		1600026											
06	1					D	1600027	H	SHEET, LEFT SIDE		1600027											
07	1					D	2600028	G	SHEET, TOP ASS'Y.		2600028											
00																						
01	1					U	2600028	G	SHEET, TOP .031 SST	TYPE 302-304	1600028-001											
									COND. A FIN. 28													
02	1					A	1600029	D	SHEET, TOP SUPPORT		1600029-001											
03																						
08																						
09	1					B	1634780	E	TUBE, GUIDE		1634780-001											
10	1					B	1634780	E	TUBE, GUIDE		1634780-006											
11	1					B	1634774		TUBE, PROBE GUIDE		1634774-003											
12	2					B	1602965	B	STANDOFF 1.00 LG.		1602965-001											
13	2					B	1602965	B	STANDOFF 1.25 LG.		1602965-002											

NOTES: ⚠ THESE DWGS. ARE FOR OPTIONAL EQUIP ONLY, AND ARE NOT PART OF BASIC CHAMBER.

P/L 2605110

PL 2605110 REV — SHT 2 OF 11

DESCRIPTION TOP ASS'Y. (2300)

NEXT ASSY END ITEM BY Armack'D — APPD —

REV ECN DATE BY APP

DELTA DESIGN
5725 KEARNY VILLA RD
SAN DIEGO, CALIF

JOB NO — S.O NO —
QTY — PROM DATE — ACT —
RUN * — MACH —

ITEM NO	ASSY & QTY -001	-002	-003	-004	INVENTURE	DRAWING NO	REV	DESCRIPTION	MFG OR MFG NO	STOCK OR PART NO
14	1				B	1634771	C	TUBE, CO2 VENT		1634771-002
15	1				B	1630007	C	RETAINER, VENT TUBE		1630007
16	4							*8-32 WELDNUT		1500176
17										
18										
19										
20										
02	1				B	2632196	D	CAN ASS'Y.		2632196-004
00										
01	1				B	1632350	C	CAN		1632350-004
02										
03										
04	2				A	1631838	A	TAB		1631838
05	1							GROMMET		1500026
06										
07										
03	1				D	2635606	A	SCROLL (HOUSING, BLOWER WHEEL)		2100701
00										
01	1							HOUSING, BLOWER WHEEL		2100701
02	4							WELDNUT	OHIO NUT *XW1713	1500189
03										
04	1				A	1600015		RING, SCROLL		1600015
05	1				D	2600201	E	BAFFLE ASS'Y.		2600201
00										
01	1				D	2600201	E	BAFFLE .031 SST	TYPE 302-304	1600201-001
								COND. A FIN. 2B		
02	3				B	1600018		SHEET, ANGLE		1600018
03	1				A	1602513	C	SHEET, GUIDE		1602513
04										
05										
06	6							*6 x 1/4 PHP-SMS		6906142-400
07	4							*6-32 x 3/8 OHP-MS		6806323-802

PURCHASING P.O. NO	QTY DUE	REC	MANUFACTURE ACT EST ACT STD. HRS. COM COM	PLATE/PAINT IN	OUT	AREA

NOTES

P/L 2605110

PL 2605110 REV — SHT 3 OF 11

DESCRIPTION TOP ASS'Y (2300)

NEXT ASSY END ITEM BY ~~Arcola~~ CK'D — APPD —

REV ECN DATE BY APP

DELTA DESIGN
5725 KEARNY VILLA RD
SAN DIEGO, CALIF

JOB NO — S.O. NO —
QTY — PROM DATE — ACT —
RUN * — MACH —

ITEM NO	ASSY & QTY -001	-002	-003	-004	INDENTURE	SIZE	DRAWING NO	REV	DESCRIPTION	MFG OR VEG NO	STOCK OR PART NO	JOB QTY	ADJ	QTY REQ	FAB CD	PURCHASING P.O. NO	QTY DUE	REC	MANUFACTURE ACT EST ACT STD HRS COM COM	PLATE/PAINT IN	OUT	AREA
08	A/R								RTV (RED)		2400003											
09																						
10											2600032											
02	1					D	2600032	F	PANEL ASS'Y., BOTTOM													
00											1600032-001											
01	1					D	2600032	F	PANEL .060 AL. ALY. 3003-H14 FINEBARK													
02	4								RIVNUT, CSK. HD.	B.F. GOODRICH #A6-106	1700037											
03	4								RIVNUT, FLAT HD.	B.F. GOODRICH #A8-75	1700006											
04	2								RIVET, 1/8" POP		1700051											
05	1					A	1600005		BRACKET, CONTROL		1600005											
06																						
07																						
08											2600033											
03	1					E	2600033	N	PANEL ASS'Y., REAR													
00											1600033											
01	1					E	2600033	N	PANEL, BACK		1700037											
02	8								RIVNUT, #6-32 CSK. HD.	A6-106												
03											2600034											
04	1					D	2600034	H	PANEL ASS'Y., RIGHT SIDE													
00											1600034-001											
01	1					D	2600034	H	PANEL, RIGHT SIDE													
02	7								RIVNUT, CSK. HD.	A6-106	1700037											
03											1602971											
05	1					E	1602971	K	PANEL, FRONT BENCH		1634083											
06	1					D	1634083	B	PANEL, LEFT SIDE		1634084											
07	1					D	1634084	A	PANEL, TOP		2600002											
08	1					C	2600002	H	BEZEL ASS'Y.													
00											1634689-001											
01	1					B	1634689	B	ANGLE, BEZEL		1634689-002											
02	1					B	1634689	B	ANGLE, BEZEL		1634689-005											
03	1					B	1634689	B	ANGLE, BEZEL		1634689-006											
04	1					B	1634689	B	ANGLE, BEZEL													
05																						

NOTES:

P/L 2605110

PL 2605110 REV ____ SHT 4 OF 11

DESCRIPTION TOP ASS'Y (2300)

NEXT ASSY END ITEM BY ~~ARma~~ CK'D ____ APPD ____

REV	ECN	DATE	BY	APP

DELTA DESIGN
5725 KEARNY VILLA RD
SAN DIEGO, CALIF

JOB NO ____ S O NO ____
QTY ____ PROM DATE ____ ACT ____
RUN # ____ MACH ____

ITEM NO	ASSY & QTY -001	-002	-003	-004	INDENTURE	SIZE	DRAWING NO	REV	DESCRIPTION	MFG OR MFG NO	STOCK OR PART NO	JOB QTY	A/R	QTY REQ'D	F&B TO	PURCHASING PO NO	QTY DUE	REC'D	MANUFACTURE ACT EST ACT STD HRS	COM	COM	PLATE/ PAINT IN	OUT	AREA
06																								
09	1					D	2635393	K	PARTITION ASS'Y.		2635393-001													
00																								
00	REF					C	1635590	B	SILKSCREEN		1635393-001													
01	1					D	2635393	K	PARTITION .06 THK. AL. ALY	FINEBARK	1700036													
02	9								RIVNUT, 6-32 FLT. HD.	BF. GOODRICH	A6-7S	1700006														
03	6								RIVNUT, 8-32 FLT. HD.	BF. GOODRICH	A8-7S	1700006														
04																								
05																								
10	1					A	2635264	A	CABLE ASS'Y. (W1)		2635264-004													
00																								
01	A/R								WIRE, 18 AWG	COHU STK.	7700618-999													
02	6								SOLDERLESS TERMINAL	(SPADE)	1500055													
03																								
11	1					A	2635265	B	CABLE ASS'Y. (W2)		2635265-002													
00																								
01	A/R								WIRE, 14 AWG	COHU STK.	7700614-999													
02	A/R								WIRE, 18 AWG	COHU STK.	7700618-999													
03	8								SOLDERLESS TERMINAL	(SPADE)	1500055													
04	2								SOLDERLESS TERMINAL	(SPADE)	1500054													
05																								
06																								
12	1					A	1602967	D	OUTER PLATE, VENT		1602967													
13	1					A	1602968	D	GASKET, VENT		1602968													
14	1					B	1640309		WELD ASS'Y. - TUBE GUIDE		1640309-001													
00																								
01	1					B	1640309		PLATE 1.25 × 1.25 × .032	302-304 SST	1640309-101													
02	1					B	1640309		TUBE .50 OD. × .028 WALL × 1.00 LG.	302-304	1640309-102													
									(WELDED & DRAWN TUBING)															
03																								
04																								
15	8								~~GASKET, CORNER~~		~~2400018~~													
16	2					C	1635605	B	LATCH KEEPER		1635605													

NOTES:

P/L 2605110

P.L. 2605110 REV ____ SHT 5 OF 11

DESCRIPTION Top Ass'y. 2300 CHAMBER

NEXT ASSY END ITEM BY KRMA CK'D ____ APPD ____

REV ECN DATE BY APP

DELTA DESIGN
5725 KEARNY VILLA RD
SAN DIEGO, CALIF.

JOB NO ____ S.O. NO ____
QTY ____ PROM DATE ____ ACT ____
RUN * ____ MACH ____

ITEM NO	ASSY & QTY -001	-002	-003	-004	INDENTURE	SIZE	DRAWING NO	REV	DESCRIPTION	MFG OR MFG NO	STOCK OR PART NO.	JOB QTY	AUL	QTY REC	FAB CD	PURCHASING PO NO	QTY DUE	REC	MANUFACTURE ACT STD HRS	EST ACT COM	ACT COM	PLATE/PAINT IN	OUT	AREA
17	1					D	2621006	A	BLOWER MOTOR ASS'Y.	(BI)	2621006													
00																								
00																								
01	1					C	1632174		50/60 Hz MOTOR		2100652													
02	4					B	1632176		INSULATION SPACER		4100174													
03	1					B	1632177		MOTOR PLATE		1632177													
04	8								*10 LOCKWASHER		6610011													
05	4								*10-32 HEX NUT		6710321													
06	1					C	1635327	A	SPACER		4100173													
07	1					B	1632180	A	SCROLL GASKET		0200116													
08	A/R								RTV-106		2400003													
09	1					B	1632186		STRIP WHEEL		2100505													
10	4								*10-32×1½ PHP-MS		6810326-424													
11																								
12																								
13																								
14																								
15																								
18	2					B	1600091	B	SHIM, KEEPER		1600091													
19	1								OUTLET, CONVENIENCE	(JI)	1500083													
20	4								FOOT, RUBBER		1500416													
21	A/R								INSUL., FIBERGLASS		2400025													
22	A/R								INSUL., PRESSTITE		2400026													
23	1					B	2602503	C	THERMOSWITCH ASS'Y.	(SI)	2300004													
00																								
01	1								THERMOSTAT	VULCAN 1D1C2-4	2300004													
02	1					A	1600007	C	BRACKET		1600007													
03																								
24	1								LAMP, NEON	(DSI)	1400082													
25	1								RELAY	(KI)	1400218													
26	1								CAPACITOR .05 μf 400V	(CI)	077520-400													
27	1					C	2622521	A	HEATER ASS'Y	(HRI)	2622521													
00																								

NOTES:

P/L 2605110

PL 2605110 REV ____ SHT 6 OF 11
DESCRIPTION TOP ASS'Y. (2300)
NEXT ASSY END ITEM BY ~~ALMA~~ CK'D ____ APPD ____

REV ECN DATE BY APP

DELTA DESIGN
5725 KEARNY VILLA RD
SAN DIEGO, CALIF.

JOB NO ____ S.O NO ____
QTY ____ PROM DATE ____ ACT ____
RUN * ____ MACH ____

ITEM NO	ASSY & QTY -001	-002	-003	-004	INDENTURE	SIZE	DRAWING NO.	REV	DESCRIPTION	MFG OR MFG NO	STOCK OR PART NO.	JOB QTY	AUL	QTY REC	FAB CD	PURCHASING PO NO	QTY DUE REC	MANUFACTURE ACT EST ACT STD HRS COM COM	PLATE/PAINT IN	PLATE/PAINT OUT	AREA
00																					
01	1					B	1635871	C	SHEET, HEATER		1635871										
02	4					B	1635868		STANDOFF, HEATER		1635868										
03	4								INSULATOR, CERAMIC	BIRNBACH *458	1500327										
04	2					B	2635875		ELEMENT 20Ω		2635875-004										
00																					
01	1					B	2635875		ELEMENT, HTR. 20Ω	LYON-RURAL ELECT.	2200005										
02	2							△2	STUD	BIRNBACH *458	1500327										
03	2							△2	NUT	BIRNBACH *458	1500327										
04																					
~~05~~	~~4~~					~~A~~	~~1635867~~		~~GASKET, INSULATOR~~		~~1635867~~										
06																					
07																					
28	1					B	2618016	F	CO_2 ASS'Y. (900 PSI) △3	(L1)	2618016-001										
00																					
~~01~~	~~1~~					~~B~~	~~2618005~~		~~CO_2 VALVE WELDMENT~~		~~2618005-001~~										
02	1					B	1647840		INJECTOR ASS'Y, CO_2 SINGLE STEM		1647840-002										
00																					
~~01~~	~~1~~					~~C~~	~~1618012~~	~~B~~	~~MOD., PIPE PLUG~~	~~1618012-002~~	~~MF 3600078~~										
01	1								FITTINGS, INJECTOR		3600197										
02	1					B	1647841		TUBE, CO_2 INJECTOR	TYPE 300 SS. 1/8 O.D. .020 I.D.	1647841-101										
~~03~~	~~1~~					~~B~~	~~1618006~~	~~B~~	~~TIP, CO_2 INJECTOR~~	~~1618006-001~~	~~4100039~~										
03	A/R								INSULATION	PRESSTITE TYPE 5	2400026										
04	1					B	1647407		CO_2 VALVE & BRACKET ASS'Y.		1647407-001										
00																					
01	1								SOLENOID VALVE (900 P.S.I.)		1800117										
02	1					B	1645008		BRACKET, CO_2		1645008-101										
03	1								NIPPLE, BRASS-1/8 NPT × 2.00		3601038										
04	1								COUPLING, 1/8 NPT		3600102										
05	4								*8-32 × 3/8 PHP-MS		6808323-804										
06	4								*8 LOCKWASHER I.D.		6608010-000										
07	4								*8-32 HEX NUT		6708320-000										
08																					

NOTES: △2 ITEMS 2 & 3 ARE SEPARATED FROM STK. ITEM 1500327 AND SUPPLIED TO VENDOR. REMAINING ITEMS ARE RESHELVED.
△3 CO_2 PSI OPTIONAL PER CUSTOMER PREFERENCE

P/L 2605110

PL 2605110 REV ____ SHT 1 OF 11
DESCRIPTION TOP ASS'Y. 2800 CHAMB
NEXT ASSY END ITEM BY ~~Alma~~ CK'D ____ APPD ____

REV ECN DATE BY APP

DELTA DESIGN
5725 KEARNY VILLA RD
SAN DIEGO, CALIF

JOB NO ____ S.O. NO ____
QTY ____ PROM DATE ____ ACT ____
RUN * ____ MACH ____

ITEM NO	ASSY & QTY -001	-002	-003	-004	INDENTURE	SIZE	DRAWING NO.	REV	DESCRIPTION	MFG OR MFG NO	STOCK OR PART NO
09											
05											
06											
29	1								TERMINAL BLOCK	(TB1)	1400572
30	1					B	2635055		~~PANEL ASS'Y., SIGNAL~~	(A3)	~~2635055~~
00											
01	1					B	1635054	B	PANEL, SIGNAL		1635054
02	1					B	2600409		PLUG MOD.	(P1)	2600409
00											
01	1								PLUG, 4 PIN AUDIO	AMPHENOL 91 MC4M	2000051
02	1								CHAIN, 4"		1500226
03	2								*6 EYELET		3600101
04	1								*4-40 × 5/32 PHP-MS		
05	A/R								WIRE, 20 GA BUS		
06											
07											
03	1								SOCKET	(J1)	2000044
04	1								TERMINAL BLOCK	(TB)	1400509
05	1					A	1600012	C	NULL TERMINAL COVER		1600012
06	4								*6 × 1/2 PHP-SMS		6906120-400
07	2								*6-32 × 3/4 PHP-MS		6806323-404
08											
09											
10											
31	1					C	~~2635058~~	A	~~PANEL ASS'Y., POWER~~	(A2) 125V	~~2635058~~
00											
00											
01	1					C	2635057	H	PANEL ASS'Y.		2635057-003
00											
00	REF					C	1635604	A	SILKSCREEN MASTER		1635604-003
01	1					C	2635057	H	PANEL .08 AL.ALY.	6061-T6	1635057-003
02	4								*6-32 RIVNUT, CSK.HD.	BF GOODRICH A6706	1700037
03											

NOTES:

P/L 2605110

PL 2605110 REV ____ SHT 8 OF 11

DESCRIPTION TOP ASS'Y (2900)

NEXT ASSY END ITEM BY ~~ACME~~ BLACK'D ____ APPD ____

REV	ECN	DATE	BY	APP

DELTA DESIGN
5725 KEARNY VILLA RD
SAN DIEGO, CALIF.

JOB NO. 1 S.O. NO. ____
QTY ____ PROM DATE ____ ACT ____
RUN * ____ MACH ____

ITEM NO	ASSY & QTY -001	-002	-003	-004	INDENTURE	SIZE	DRAWING NO.	REV	DESCRIPTION	MFG OR MFG NO	STOCK OR PART NO.
04											
02	1								FUSEHOLDER	(XF1)	1400050
03	2					A	2635048	A	CAPACITOR MOD.	(C1,C2)	2635048
00											
01	1								CAPACITOR		0800007
02	1								SWAGE NUT		1700029
03											
04	1								STRAIN RELIEF		1500077
05	2								~~PLUG, BUTCH ½"~~		~~3600081~~
06	1								PLUG, POWER		2000135
07	85 FT								POWER CORD		1500394
08	1								*6-32 × ½ PHP-MS		6806321-224
09	2								*6-32 × ⅜ PHP-MS		6806323-824
10	4								*6 LOCKWASHER		6606012
11	3								SOLDERLESS TERMINAL	(RING)	1500071
12	1								SOLDERLESS TERMINAL	(RECEPT.)	1500066
13	5"								WIRE, 14 AWG	COHU STK.	7700614-999
14	2								*6-32 HEX NUT		6706322
15	1								SOLDERLESS TERMINAL	(RING)	1500056
16											
17											
18											
19											
20											
32	1								~~FUSE 15 A~~	~~(A2-F1)~~	~~1400037~~
33	1								PROBE	(P1)	2300032
34	1					A	2635833	B	CABLE ASS'Y.	(W3)	2635833-001
00											
00	REF					D	1635841	A	SCHEMATIC DIAGRAM	125Y	
01	A/R								WIRE, 14 AWG TEFLON		1500380
02	A/R								WIRE, 18 AWG TEFLON		1500387
03											
04	4								SOLDERLESS TERMINAL	(SPADE)	1500054

JOB QTY	AUX	QTY REC	FAB CD	PURCHASING P.O. NO	QTY	DUE	REC	MANUFACTURE ACT STD HRS	EST ACT COM	COM	PLATE/PAINT IN	OUT	AREA

NOTES:

P/L 2605110

P.L. 2605110 REV — SHT 9 OF 11

DESCRIPTION TOP ASSY (2300)

NEXT ASSY END ITEM BY Arma CK'D — APPD —

REV	ECN	DATE	BY	APP

DELTA DESIGN
5725 KEARNY VILLA RD.
SAN DIEGO, CALIF.

JOB NO. — S.O. NO. —
QTY — PROM DATE — ACT —
RUN * — MACH —

ITEM NO	ASSY & QTY -001	-002	-003	-004	INDENTURE	SIZE	DRAWING NO.	REV.	DESCRIPTION	MFG OR MFG NO	STOCK OR PART NO	JOB QTY	AUL	QTY REC	FAB CD	PURCHASING P.O. NO	QTY. DUE. REC'D	MANUFACTURE ACT STD. HRS.	EST ACT COM.	ACT COM	PLATE/PAINT IN	OUT	AREA
05	2								SOLDERLESS TERMINAL	(SPADE)	1500055												
06	3								SOLDERLESS TERMINAL	(RING)	1500062												
07																							
08																							
09																							
35	1								GROMMET, ½"		1500032												
36	6							⚠	WIRE NUT, SMALL	(E1-E4, E7, E8)	1500188												
37	6								CABLE TIE		1500013												
38	6								PUSHMOUNT		1500014												
39	1								PLUG (½" DIA HOLE)		3600081												
40	A/R								SPONGE STRIPS		2400126												
41	4								SPACER (½" LG.)		4100093												
42	4								*4 × ½ PHP-SMS		6904120-400												
43	4								~~GASKET STRIPS~~		~~2400019~~												
44	1						B	1640100	FLEXIDRIVE		1640100												
45	2								SOLDERLESS TERMINAL	(RING)	1500062												
46	1								SOLDERLESS TERMINAL	(SPADE)	1500055												
47	2							⚠	SOLDERLESS TERMINAL	(RECEPT.)	1500047												
48	A/R								WIRE, 14 AWG (TEFLON)		1500380												
49	A/R								WIRE, 14 AWG	COHU STK.	7700614-999												
50	A/R								WIRE, 20 AWG	COHU STK.	7700620-999												
51	1								PLUG (1" DIA. HOLE)		1500256												
52	2								*6-32 × ⅜ PHP-MS		6806323-804												
53	22								*6-32 × ½ PHP-MS		6806321-204												
54	4								*6-32 × 1 PHP-MS		6806321-004												
55	26								*6 × ½ PHP-SMS		6906120-400												
56	4								*8-32 × ¾ PHP-MS		6808323-404												
57	8								*8-32 × ¾ OHS-MS		6808323-402												
58	4								*10-32 × ½ PHP-MS		6810321-204												
59	14								*6 × ½ OHP-SMS		6906122 200												
60	1								*8-32 × ¾ FHS-MS		6808323-401												
61	6								*10 LOCKWASHER		6610010												
62	13								*6 LOCKWASHER		6606010												

NOTES: ⚠ INDICATED ON SHT. 5 OF DWG.

P/L 2605110

P.L. 2605110 REV ____ SHT 10 OF 11

DESCRIPTION TOP ASS'Y 2300 CHAMBER

NEXT ASSY END ITEM BY ARMA CK'D ____ APPD ____

REV	ECN	DATE	BY	APP

DELTA DESIGN
5725 KEARNY VILLA RD
SAN DIEGO, CALIF

JOB NO. ____ S.O. NO. ____

QTY ____ PROM DATE ____ ACT ____

RUN * ____ MACH ____

ITEM NO	ASSY & QTY -001	-002	-003	-004	INDENTURE	SIZE	DRAWING NO.	REV	DESCRIPTION	MFG OR MFG NO	STOCK OR PART NO.	JOB QTY	AUL	QTY REC	FAB CD	PURCHASING PO NO	QTY DUE	REC'D	MANUFACTURE ACT STD HRS	EST ACT COM	ACT COM	PLATE/PAINT IN	OUT	AREA
63	1								* 10-32 × 3/4 PHP-MS		6810323-404													
64	4								* 10 FLT. WASHER		6610000													
65	2								CLAMP, CABLE		1500002													
66	2								* 10-32 HEX NUT		6710320													
67	6								* 6 HEX NUT		6706320													
68	1								NUT		1500735													
69									BUSHING		4100003													
70	2								* 6 FLT. WASHER		6606000													
71						A	1636422		LABEL, PRESS. SENSITIVE		1636422													
72	1					C	2618020		SHIP KIT ⚠5		2618020-001													
00																								
01	1								HOSE		3600123													
02	1								STRAINER		1400110													
03	1								NUT		3600120													
04	1								SLEEVE		3600121													
05	1								CONNECTOR		3600004													
06	1								CONNECTOR		3600119													
07	1								WASHER		3600122													
08																								
09																								
10																								
73	1								STRAIN RELIEF		1500077													
74	1								PLUG, POWER 120V P1		2000135													
75	86								POWER, CORD		1500394													
76	2								CAPACITOR C1, C2		2635048													
77	1					B	2600409		PLUG, P2		2600409													
78	1								SOCKET J2		2000044													
79	1								TERMINAL BLOCK TB2		1400509													
80	1					A	1600012		NULL TERMINAL COVER		1600012													
81	1								CIRCUIT BREAKER CB1 120V	AM2-A3-A20-3	1400008													
82	1							⚠	CIRCUIT BREAKER CB1 240V	AM2-A3-A15-2	1400002													
83	1							⚠	PLUG, POWER P1 240V	HUBBLE 9570-C	2000224													
84	1					C	1647767		CASE, CIRCUIT BREAKER		1647767-101													

NOTES: ⚠5 TO BE SHIPPED WITH CHAMBER.

P/L 2605110

P.L. 2605110 REV ____ SHT 11 OF 11

DESCRIPTION TOP ASSY 2300 CHAMBER

NEXT ASSY END ITEM BY ____ CK'D ____ APPD ____

REV	ECN	DATE	BY	APP

DELTA DESIGN
5725 KEARNY VILLA RD
SAN DIEGO, CALIF

JOB NO. ____ S.O. NO ____
QTY ____ PROM DATE ____ ACT ____
RUN * ____ MACH ____

ITEM NO	ASSY & QTY -001	-002	-003	-004	INDENTURE	SIZE	DRAWING NO.	REV	DESCRIPTION	MFG OR MFG NO	STOCK OR PART NO	JOB QTY	ALL	QTY REC	FAB CO	PURCHASING P.O. NO	QTY DUE	REC	MANUFACTURE ACT STD HRS	EST ACT COM	COM	PLATE/PAINT IN	OUT	AREA
85	1					B	1643476		IDENTIFICATION PLATE		1643476-101													
86																								
87	5								SOLDERLESS TERMINAL (RING)		1500071													
88	2								SCREW #4 x 1/4 PHPSM		6904140-400													
89	4								SCREW #6 x 1/4 PHPSM		6906140-400													
90	2								SCREW #6-32 x 3/4 PHPMS		6806323-404													
91																								
92	1								SCREW #10-32 PHPMS		6810321-214													
93	3								LOCKWASHER (EXT) #10		6610031-000													
94	2								NUT #10		6710321-000													
95	1					B	2618015	C	CO_2 ASSY, (300 PSI) SINGLE STEM	(LI) ⚠6	2618015-001													
00																								
01	1					~~B~~	~~2618005~~		~~CO_2 VALVE WELDMT ASSY~~		~~2618005-002~~													
02	1					B	1647840		INJECTOR ASSY, CO_2 SINGLE STEM		1647840-001													
00																								
01	1								FITTINGS, INJECTOR		3600197													
02	1					B	1647842		TUBE, CO_2 INJECTOR	TYPE 300 SS, 1/8 O.D., .035 I.D.	1647842-101													
03																								
03	AR								INSULATION	PRESSTITE TYPE 5	2400026													
04	1					B	1647407		CO_2 VALVE + BRACKET ASSY		1647407-002													
00																								
01																								
02	1					B	1645008		BRACKET, CO_2		1645008-101													
03	1								NIPPLE, BRASS - 1/8 NPT x 2.00		3601038													
04	1								COUPLING, 1/8 NPT		3600102													
05	4								8-32 x 3/8 PHP-MS		6808323-804													
06	4								#8 I.D. WASHER, LOCK		6608010-000													
07	4								8-32 HEX NUT		6708320-000													
08	1								SOLENOID VALVE (300 PSI)		1800105													
09																								
00	REF					C	1640222		LN_2 INSTALLATION ASSY VALCOR	VALVE (IN FIELD)	1640222-005													
00	REF					D	1640081		OPTION CO_2 TO LN_2 FAILSAFE ASSY		1640081-001													
00	REF					D	1640081		OPTION, CO_2 / LN_2 DUAL FAILSAFE ASSY		1640081-002													

NOTES: ⚠6 CO_2 PSI OPTIONAL PER CUSTOMER PREFERENCE

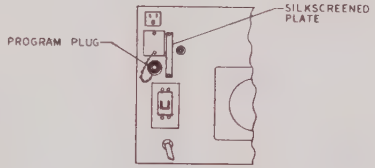
P/L 2605110

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPD
	A	PER ECO M2028 5-7-80 F.S.O. CHG'D VIEW OF ITEM 2 - REMOVED TERM. BRD COVER	5/8/80	

—INSTRUCTIONS FOR CHAMBER RETROFIT— TYPE V CONTROLLER

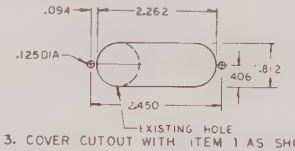
1. REMOVE CHAMBER RIGHT SIDE PANEL TO ALLOW ACCESS TO CONTROLLER & PROBE GUIDE TUBE. ON MODELS 2850, 5900 & 7650 TOP PANEL MUST BE REMOVED AS WELL.
2. REMOVE EXISTING CONTROLLER & ITS PROBE. DO NOT DESTROY BLACK PRESS-TITE.
3. NOTE CHAMBER REAR PANEL CONFIGURATION & DECIDE WHICH MEANS OF MOUNTING THE REMOTE INTERFACE CABLE ASSY. PLUG BEST SUITS YOUR CHAMBER & REQUIREMENTS →
4. MAKE THE REAR PANEL MODIFICATIONS
5. MOUNT THE REMOTE INTERFACE CABLE ASSY PLUG TO THE REAR PANEL— SEE DRAWING D1650223 & PARTS LIST FOR CABLE & HARDWARE CALLOUTS
6. INSERT THERMOCOUPLE ASSY IN PROBE GUIDE TUBE & SECURE IN PLACE USING BLACK PRESS-TITE—SEE DRAWING D1650223 —CAUTION— DO NOT SHORTEN THERMOCOUPLE ASSY WIRE FOR ANY REASON
7. INSTALL TYPE V CONTROLLER & WIRE PER WIRING DIAGRAM D1635841 OR D1635837 SHEET 2 OF 2. IF NECESSARY, COIL EXCESS THERMOCOUPLE WIRE & POSITION IT BETWEEN CONTROLLER & CHAMBER TO ACT AS A SERVICE LOOP IF NEEDED
8. REPLACE TOP PANEL IF YOU HAVE A MODEL 2850, 5900 OR 7650
9. BEFORE REPLACING SIDE PANEL SEE CONTROLLER MANUAL FOR SET UP & CALIBRATION PROCEDURES
10. CALIBRATE CONTROLLER
11. REPLACE SIDE PANEL

IF YOUR MODEL 2300 CHAMBER REAR PANEL LOOKS LIKE THIS MODIFY BY:

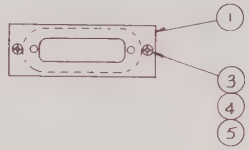


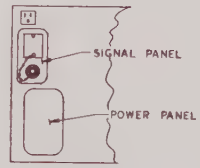
1/4 SCALE

1. REMOVE PROGRAM PLUG & SILKSCREENED PLATE.
2. ENLARGE PROGRAM PLUG HOLE TO BELOW DIMENSIONS



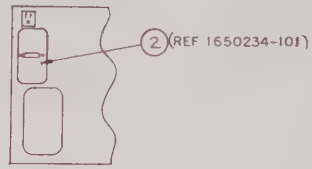
3. COVER CUTOUT WITH ITEM 1 AS SHOWN



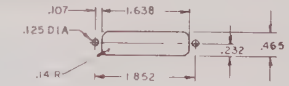


1/4 SCALE

1. REMOVE OLD SIGNAL PANEL & REPLACE WITH NEW ITEM 2.



REF: REMOTE INTERFACE CABLE ASSY PLUG CUTOUT DIMENSIONS



⚠ FINISH (IF APPLICABLE)

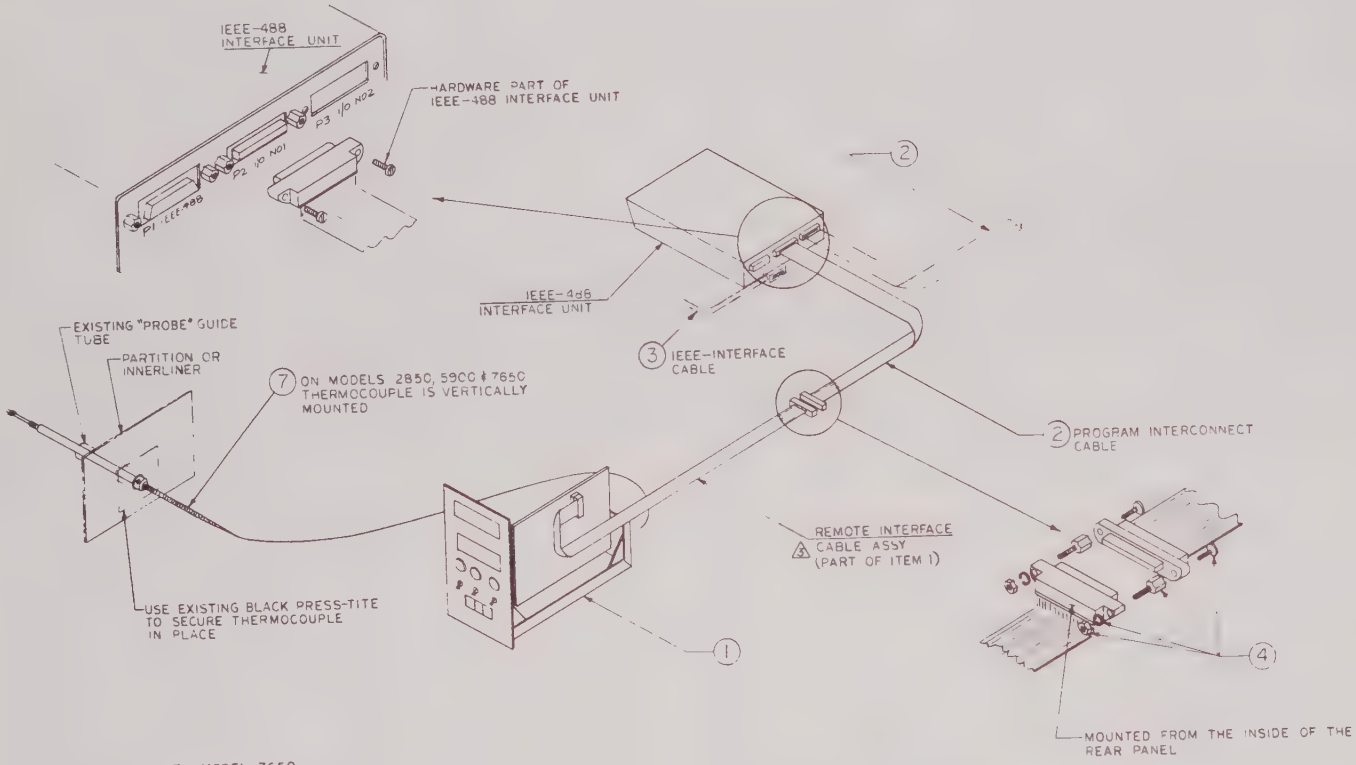
⚠ MATL (IF APPLICABLE)

NOTES: UNLESS OTHERWISE SPECIFIED

						ENGINEERING ACTIVITY M1930	DELTA DESION INC. A DIVISION OF CSZ INC. SAN DIEGO, CA. 92123
						DESIGN	TITLE: CHAMBER—TYPE V CONTROLLER RETROFIT 2300
						DRAFTER OLEWIK 12 10 9	
						CHECKER	
						APP'D'V	SIZE D / CODE IDENT / 1650238
						RELEASE	
2605110	2300					DO NOT SCALE DWG	SCALE / SHEET 1 OF 1
ASSEMBLY / NEXT ASSY	USED ON	SERIAL NO.	DATE REV	DWG REV	MATERIAL ⚠		
APPLICATION		EFFECTIVITY			FINISH ⚠		

BLUE CARD

REVISIONS			
ZONE	LTR	DESCRIPTION	DATE	APPD



⚠3 36" LONG CABLE USED WITH MODEL 7650
28 LONG CABLE USED WITH ALL OTHER MODELS

⚠FINISH (IF APPLICABLE)

⚠MATL (IF APPLICABLE)

NOTES: UNLESS OTHERWISE SPECIFIED

QUANTITY	NEXT ASSY	USED ON

APPLICATION

SERIAL NO. | DATE EFF | DWG REV

EFFECTIVITY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS: XX ± .010, XXX ± .005
ANGULAR: ± 30'
MFG TOLERANCES

MATERIAL ⚠

FINISH ⚠

ENGINEERING ACTIVITY	
DESIGN	
DRAFTED	CURTAIN 11-29-94
CHECKED	
APPROV	
RELEASE	

DO NOT SCALE DWG

DELTA DESIGN INC.
A SUBSIDIARY OF COHU INC.
SAN DIEGO, CA. 92123

TITLE: INTERCONNECT ASSY.
TYPE V CONTROLLER WITH
IEEE-488

SIZE	CODE IDENT	
D		1n50223

SCALE | SHEET ___ OF ___

PL 1650223 REV — SHT 1 OF 1

DESCRIPTION INTERCONNECT ASSY TYPE V CONTROLLER WITH IEEE-488

NEXT ASSY MULTI-USAGE BY F.J.O. CK'D — APPD —

REV	ECN	DATE	BY	APP

DELTA DESIGN
5725 KEARNY VILLA RD
SAN DIEGO, CALIF

JOB NO — S.O NO —
QTY — PROM DATE — ACT —
RUN * — MACH —

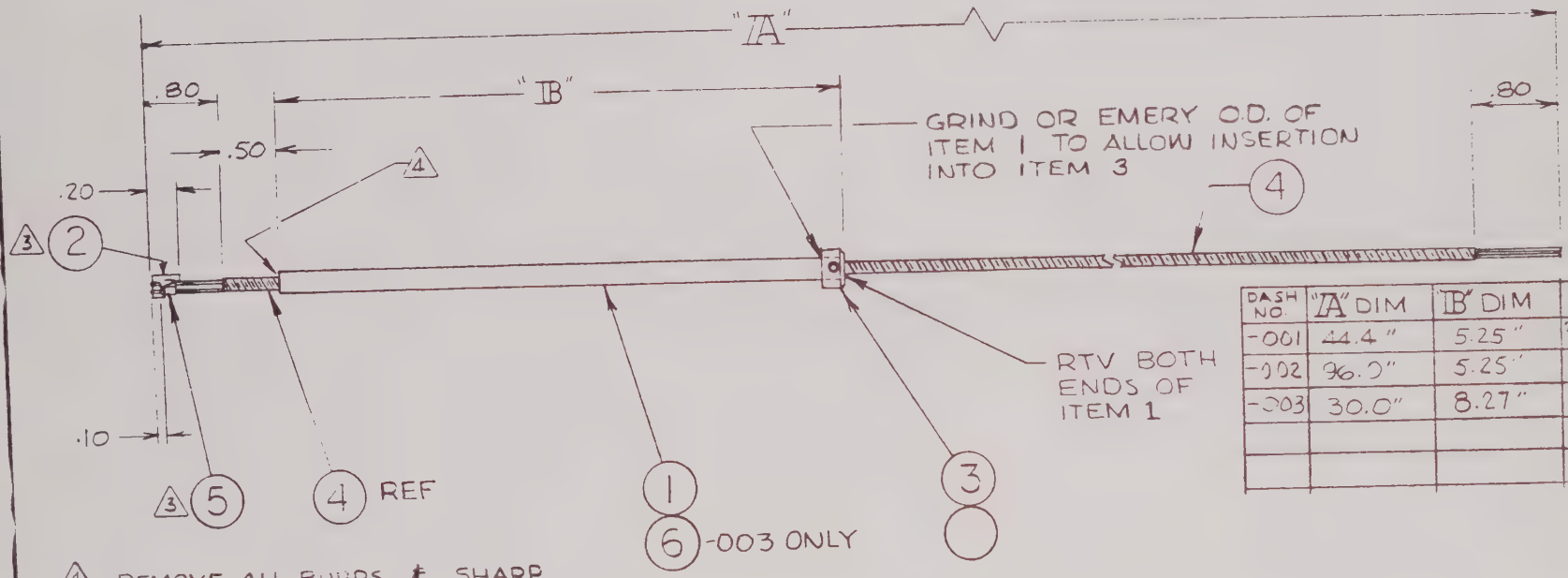
ITEM NO	ASSY & QTY -001	-002	-003	-004	INDENTURE	SIZE	DRAWING NO	REV	DESCRIPTION	MFG OR MFG NO	STOCK OR PART NO
00	X					D	1650223		INTERCONNECT ASSY- TYPE V CONTROLLER WITH IEEE-488		1650223-001
00											
00											
00											
00											
00											
00											
01	REF					D	1650160		TYPE V CONTROLLER		1650160-001
02	|								PROGRAM INTERCONNECT	CABLE	
03	1								IEEE-488 INTERFACE	CABLE	
04	|								JACK SOCKET ASSY.	ANSLEY #609-003	1700324
05											
06											
07	1					B	1650230		THERMOCOUPLE ASSY	MULTI-USAGE	1650230-001

JOB QTY	ALL	QTY REC	FAB CD	PURCHASING P.O NO	QTY	DUE	REQ	MANUFACTURE ACT STD	EST ACT HRS	COM	CODE	PLATE/PAINT IN	OUT	AREA

NOTES.

1650223
P/L

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPD
	A	PER ECN M2052 THANNER 12-3-73		



DASH NO.	"A" DIM	"B" DIM	USED ON
-001	44.4"	5.25"	2300 THRU 7650, 2850A
-002	96.0"	5.25"	8000
-003	30.0"	8.27"	2300A

4 REMOVE ALL BURRS & SHARP EDGES FROM I.D. OF ITEM 1 (BOTH ENDS)

3 INSURE ITEM 5 IS SOLIDLY CRIMPED OVER ITEM 4 — THEN ITEM 2 IS CRIMPED OVER ITEM 5

⚠ FINISH (IF APPLICABLE)

⚠ MATL (IF APPLICABLE)

NOTES: UNLESS OTHERWISE SPECIFIED

DASH NO.	QTY	NEXT ASSY	USED ON
003	1	MULTI-USAGE	
002	1	1650223	8000
001	1	1650223	

APPLICATION | SERIAL NO. | DATE EFF | DWG REV | EFFECTIVITY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
ANGLES 0° 30'
HOLE TOLERANCES

MATERIAL ⚠
FINISH ⚠

ENGINEERING ACTIVITY M1952

DESIGN	
DRAFTED	OLEJNIK 12/6/73
CHECKED	
APPROV	
RELEASE	

DO NOT SCALE DWG

DELTA DESIGN INC.
A SUBSIDIARY OF CONRAC INC.
SAN DIEGO, CA. 92123

TITLE: THERMOCOUPLE ASSY.

SIZE B | CODE IDENT | 1650230

SCALE | SHEET 1 OF 1

PL 1650230 REV ____ SHT 1 OF 1
DESCRIPTION THERMOCOUPLE ASSY.
NEXT ASSY MULTI USAGE BY F.J.L. CK'D ____ APPD ____

REV ECN DATE BY APP

DELTA DESIGN
5725 KEARNY VILLA RD
SAN DIEGO, CALIF

JOB NO ____ S O NO ____
QTY ____ PROM DATE ____ ACT ____
RUN * ____ MACH ____

ITEM NO	ASSY & QTY -001	-002	-003	-004	INDENTURE	SIZE	DRAWING NO.	REV	DESCRIPTION	MFG OR MFG NO	STOCK OR PART NO	JOB QTY	ALL	QTY REC	FAB CD	PURCHASING PO NO	QTY DUE	REQ'D	MANUFACTURE ACT STD HRS	EST ACT COM	COM	PLATE/PAINT IN	OUT	AREA
00	X					B	650230		THERMOCOUPLE ASSY.		1650230-001													
00		X				B	1650230		THERMOCOUPLE ASSY		1650230-002													
00			X			B	1650230		THERMOCOUPLE ASSY		1650230-003													
00																								
00																								
00																								
00																								
01	1	1				B	1650230		TUBE, ALUMINUM		1650230-101													
									3/16 O.D. X .022 WALL X 5 1/4 LONG															
02	1	1	1			B	1650230		TUBE, ALUMINUM		1650230-102													
									3/16 O.D. X .022 WALL X 20 LONG															
03	1	1	1						COLLAR, SET SCREW	BERG # CSS	1700292													
04	4'								WIRE, THERMOCOUPLE	IRON CONSTANTAN	1501375													
		8'							" "	" "	1501375													
			30"						" "	" "	1501375													
05	1	1	1						QUIKTIP	# 128543	1700327													
06			1				B1650230		TUBE, ALUMINUM		1650230-103													
									3/16 O.D. X .022 WALL X 8.27" LONG															

NOTES:

P/L 1650230

WARRANTY

Delta Design, Inc. guarantees all products manufactured and sold by it to conform to published specifications and against defective material and workmanship for a period of 90 days from the date of our shipment. Temperature chambers and electronics are warranted for one year from date of shipment. All contactor assemblies are warranted for a period of 90 days or 1/2 million cycles. Obligation under these warranties is limited to repair or replacement by Delta at its plant or one of its authorized service stations, on any of our products which Delta determines to be defective or not in accord with stated specifications. Delta will not accept responsibility for any defect caused by improper use, nor will Delta assume liability for any unauthorized repairs or modifications to its products or materials, even though defective or not in accord with the specifications. In no case will responsibility extend to products, materials, or equipment not manufactured by Delta. All products to be returned to Delta's plant for warranty repair must have prior written approval from Delta Design, Inc., and all return transportation charges will be at the buyer's expense. Delta will not accept liability for any unauthorized returns. No liability will be accepted for any damages to customer's materials, and equipment due to the use or misuse of Delta's products, nor for any loss of profits or other special damages. Delta Design, Inc., reserves the right to change price, design features and/or specifications without notice.

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